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ISEE Lower Level 2500+ Practice Questions

Answer Explanations

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Verbal Chapter Answer Explanations

Synonyms Practice Set 1

1. **Abandon** means to leave something behind. For example, if someone **abandons** a dog on the side of the road, they leave the dog on the side of the road. This is closest in meaning to answer choice (A) **desert**.
2. **Regretful** means to feel regret or feel sorry about something. For example, you may be **regretful** after saying something hurtful to a friend. This is closest in meaning to answer choice (B) **apologetic**.
3. **Sympathetic** means showing sympathy or compassion. For example, if your friend comes to you crying, you would be **sympathetic** towards them and comfort them. This is closest in meaning to answer choice (C) **supportive**.
4. **Engaging** means appealing or attractive. For example, if your teacher is showing you an experiment in science class that is very interesting and exciting, you could say the presentation is **engaging**. This is closest in meaning to answer choice (D) **charming**.
5. **Superb** means amazing (think of the word “super”). For example, if you score a 100% on your math test, you did a **superb** job. This is closest in meaning to answer choice (B) **excellent**.
6. **Despair** means feeling like there is no hope. For example, someone would probably feel **despair** if his/her house burned down. This is closest in meaning to answer choice (B) **hopelessness**.
7. **Trivial** means of little importance or value. For example, you might feel like a daily chore is boring or **trivial** because it doesn’t mean that much to you. This is closest in meaning to answer choice (A) **inconsequential**.
8. **Tedious** means tiresome or monotonous, or something that is dull. For example, you might find doing your homework **tedious**. This is closest in meaning to answer choice (D) **boring**.
9. **Arrogant** means to feel superior or more important or to be unpleasantly proud. For example the football star who brags about how good he is all the time is being **arrogant**. This is closest in meaning to answer choice (C) **cocky**.
10. **Assumption** means something that is accepted as true or as certain to happen without proof. For example, you probably have the **assumption** that if you study for a test you will get a better grade on it. This is closest in meaning to answer choice (B) **guess**.

11. **Apprentice** means someone who is learning a skill or a trade through experience working under a skilled professional. For example, you might learn how to be a carpenter by becoming an **apprentice** and working for a professional carpenter for a few years. This is closest in meaning to answer choice **(C) trainee**.
12. **Stern** means serious or strict. For example, your parents might talk to you in a **stern** tone if you break the rules and they are reprimanding you. This is closest in meaning to answer choice **(D) serious**.
13. **Flexible** means easily modified to respond to changing circumstances or conditions. For example, if you work in a high stress environment that changes on a day to day basis, you have to be **flexible** in order to succeed. This is closest in meaning to answer choice **(C) adaptable**.
14. **Optimistic** means hopeful and confident about the future. For example, if you are going through a hard time but believe it will get better, you are being **optimistic**. This is closest in meaning to answer choice **(B) hopeful**.
15. **Exile** means to expel or ban someone from their native country, land or place of residence. For example, a corrupt leader of a country might **exile** people who don't agree with his decisions. This is closest in meaning to answer choice **(D) banish**.
16. **Fatigued** means drained of strength and energy. For example, if you run a marathon you will be **fatigued** when you finish. This is closest in meaning to answer choice **(A) tired**.
17. **Indifferent** means having no particular interest or sympathy for something. For example, if you don't care about how you look, you are probably **indifferent** to what clothes you wear. This is closest in meaning to answer choice **(A) unconcerned**.
18. **Bizarre** means very strange or unusual. For example, if you saw a monkey driving a car that would be **bizarre**. This is closest in meaning to answer choice **(B) odd**.

Synonyms Practice Set 2

1. **Deliberate** means done on purpose with careful consideration. For example, if you choose to skip school even though you know you might get in trouble, that choice was **deliberate**. This is closest in meaning to answer choice **(C) intentional**.
2. **Conform** means to follow what is socially acceptable or normal. For example, if you move to a new country you will probably **conform** to their culture. This is closest in meaning to answer choice **(A) adapt**.
3. **Aroma** means a distinctive and usually pleasant smell. For example, baking a pie would fill the kitchen with a sweet **aroma**. This is closest in meaning to answer choice **(C) smell**.

4. **Arid** means having little or no rain or moisture. For example, the Sahara desert could be described as an **arid** climate. This is closest in meaning to answer choice **(D) dry**.
5. **Blatant** means open or not trying to hide anything. For example, if you lie to someone even though you both know the truth, that is a **blatant** lie. This is closest in meaning to answer choice **(B) obvious**.
6. **Abnormal** means deviating from what is normal or typical. For example, walking around without clothes on in public would be **abnormal** in most places. This is closest in meaning to answer choice **(B) strange**.
7. **Impulsive** means acting without careful thought, usually suddenly. For example, making a last minute decision to buy a new tv when you see it at the store is an **impulsive** decision. This is closest in meaning to answer choice **(A) spontaneous**.
8. **Atrocious** means of very poor quality or extremely bad/unpleasant. For example, if you went out to eat and the food was old and expired, you might describe the meal as **atrocious**. This is closest in meaning to answer choice **(D) horrible**.
9. **Catastrophe** means an event causing great and often sudden damage or suffering. For example, a large earthquake that damages multiple buildings is a **catastrophe**. This is closest in meaning to answer choice **(A) disaster**.
10. **Modest** means not being too proud or overconfident and not bragging about yourself. For example, when a basketball star thanks his teammates and coaches after winning an award, he or she is being **modest**. This is closest in meaning to answer choice **(B) humble**.
11. **Absurd** means wildly unreasonable, illogical or inappropriate. For example, if a fast food restaurant was charging \$1000 for a cheeseburger that would be **absurd**. This is closest in meaning to answer choice **(C) ridiculous**.
12. **Subjective** means based on or influenced by personal feelings or opinions. For example, people's political views are usually very **subjective**. This is closest in meaning to answer choice **(D) biased**.
13. **Pedestrian** means lacking inspiration or excitement; something that is normal. For example, if you go to see a play and feel it wasn't anything special you might say it was **pedestrian**. This is closest in meaning to answer choice **(D) commonplace**.
14. **Preserve** means to keep something as it is, especially in order to prevent it from being damaged. For example, if you put a waterproof coating on your shoes, you will **preserve** their quality for longer than if you didn't. This is closest in meaning to answer choice **(A) maintain**.

15. **Juvenile** means of or relating to young people or things. For example, a child could also be called a **juvenile** because they are not yet an adult. This is closest in meaning to answer choice **(D) youthful**.
16. **Immense** means extremely large or great, especially in scale or degree. For example, you could describe an elephant as **immense** due to its large size. This is closest in meaning to answer choice **(B) huge**.
17. **Jubilee** means a special anniversary or celebration of that anniversary. For example, a couple might plan a **jubilee** to celebrate their 50th anniversary. This is closest in meaning to answer choice **(A) celebration**.
18. **Comprehensive** means complete; including all or nearly all aspects of something. For example, if you are an expert on a subject, you would have a **comprehensive** knowledge of that subject. This is closest in meaning to answer choice **(A) complete**.

Synonyms Practice Set 3

1. **Vague** means of uncertain or unclear meaning. For example, if someone asks you a question and you don't really know the answer, you might give a **vague** response. This is closest in meaning to answer choice **(C) unclear**.
2. **Quaint** means old-fashioned or unusual in an attractive or pleasing way. For example, old country cottages might be described as **quaint**. This is closest in meaning to answer choice **(B) charming**.
3. **Meandering** means following a winding course. For example, to get through a corn maze you would probably take a **meandering** path. This is closest in meaning to answer choice **(D) winding**.
4. **Naive** means showing a lack of experience, wisdom or judgment. For example, a child would be **naive** to think everyone tells the truth all the time. This is closest in meaning to answer choice **(C) inexperienced**.
5. **Nonchalant** means not displaying interest or enthusiasm. For example, if someone asks what you want to eat and you respond with “whatever”, your response is **nonchalant**. This is closest in meaning to answer choice **(B) unconcerned**.
6. **Wealthy** means having a lot of money. For example, Bill Gates and Elon Musk are both very **wealthy**. This is closest in meaning to answer choice **(D) rich**.
7. **Frugal** means being careful when spending money. For example, someone who shops at a second hand store could be considered **frugal**. This is closest in meaning to answer choice **(B) thrifty**.

8. **Infectious** means likely to spread or influence others in a rapid manner, oftentimes referring to a sickness or disease. For example, the Spanish flu was a very **infectious** disease. This is closest in meaning to answer choice **(D) contagious**.
9. **Compromise** means an agreement reached by two sides. For example, if you want to wake up at 6 and your partner wants to wake up at 9 and you agree to wake up right in the middle at 8, you both made a **compromise**. This is closest in meaning to answer choice **(A) understanding**.
10. **Accelerate** means to begin to move more quickly. For example, when you press down on the gas pedal in a car the car begins to **accelerate**. This is closest in meaning to answer choice **(A) speed**.
11. **Approximate** means nearly correct or close in value but not exact. For example, if you ask your parents how long the drive will be and they say around 3 hours, their answer is **approximate**. This is closest in meaning to answer choice **(A) estimated**.
12. **Confine** means to keep within limits or to hold within a location. For example, if you break the law, the police might **confine** you to a jail cell. This is closest in meaning to answer choice **(B) restrict**.
13. **Aggravate** means to annoy someone, especially persistently. For example, if you are constantly bothering your sister while she is trying to get work done you might **aggravate** her. This is closest in meaning to answer choice **(C) irritate**.
14. **Mandatory** means required by law or rules. For example, it is **mandatory** that you wear a seatbelt while driving a car. This is closest in meaning to answer choice **(D) required**.
15. **Interrupt** means to stop the continuous progress of an activity or process. For example, if someone is in the middle of speaking it would be rude to **interrupt** them by jumping in and speaking over them. This is closest in meaning to answer choice **(A) interfere**.
16. **Forbid** means to refuse to allow something to happen. For example, your teacher might **forbid** you to use your cell phone in class. This is closest in meaning to answer choice **(D) ban**.
17. **Immature** means not fully developed or acting in a childish manner. For example, name calling might be considered an **immature** behavior. This is closest in meaning to answer choice **(C) childish**.
18. **Lenient** means not harsh, severe or strict. For example, if you are speeding and a police officer only gives you a warning, they are being **lenient**. This is closest in meaning to answer choice **(D) forgiving**.

Synonyms Practice Set 4

1. **Sincere** means honest or pure. For example, if someone you love is not feeling well and you tell them you hope they feel better soon, you are being **sincere** because you really feel that way. This is closest in meaning to answer choice **(B) genuine**.
2. **Abbreviate** means to shorten. For example, to save time typing someone might **abbreviate** the word attention to attn. This is closest in meaning to answer choice **(A) shorten**.
3. **Diligent** means putting in a lot of effort to accomplish a task. For example, if you study every day for a week before a big test, you would be diligent in your effort to get a good grade. This is closest in meaning to answer choice **(A) hardworking**.
4. **Thrilled** means extremely pleased and excited. For example, if you win the lottery you would probably be **thrilled**. This is closest in meaning to answer choice **(D) excited**.
5. **Skilled** means having the knowledge or ability to perform an activity or task well. For example, a good plumber is very **skilled** at fixing clogged pipes. This is closest in meaning to answer choice **(C) talented**.
6. **Illuminate** means to make something visible by shining light on it. For example, a bright flashlight would **illuminate** a dark room. This is closest in meaning to answer choice **(D) brighten**.
7. **Flourish** means to grow or develop in a healthy way. For example, if a plant is planted in the ideal environment and gets enough food and water, it will usually **flourish**. This is closest in meaning to answer choice **(C) thrive**.
8. **Suffocate** means to deprive of oxygen or to stop something from breathing. For example, if an astronaut didn't have an oxygen tank in space they would **suffocate**. This is closest in meaning to answer choice **(B) smother**.
9. **Peculiar** means strange, odd or unusual. For example, sitting outside in a rainstorm might be considered a **peculiar** behavior. This is closest in meaning to answer choice **(D) atypical**.
10. **Anonymous** means not identified by name. For example, if you want to report a crime but don't want anyone to know it was you who reported it you could make an **anonymous** call. This is closest in meaning to answer choice **(B) unknown**.
11. **Compel** means to force to do something. For example, if you are a witness in a court case the judge may **compel** you to answer a question. This is closest in meaning to answer choice **(A) force**.
12. **Celebrate** means to have an event to recognize someone or something, normally an achievement. For example, many people **celebrate** their birthday with a party. This is closest in meaning to answer choice **(C) honor**.

13. **Quench** means to satisfy one's thirst. For example, after you exercise you would probably **quench** your thirst with some water. This is closest in meaning to answer choice **(D) satisfy**.
14. **Solitary** means done or existing alone. For example, a hermit or someone who doesn't come out of their house much would live a very **solitary** life. This is closest in meaning to answer choice **(A) alone**.
15. **Agenda** means a list or outline of things that need to be done. For example, at the start of a meeting your boss might go over the **agenda** for the meeting so everyone has an idea of what will be discussed. This is closest in meaning to answer choice **(A) schedule**.
16. **Opportune** means done or occurring at a favorable or useful time. For example, something you were thinking about buying going on sale right before you buy it would be **opportune** timing. This is closest in meaning to answer choice **(A) lucky**.
17. **Content** means in a state of peaceful happiness. For example, if your job is fulfilling to you and you enjoy doing it you would be **content** with it. This is closest in meaning to answer choice **(B) satisfied**.
18. **Abide** means to accept something or follow a rule or decision. For example, if you **abide** by the law you will drive the speed limit. This is closest in meaning to answer choice **(C) obey**.

Synonyms Practice Set 5

1. **Chore** means a routine task, especially a household one. For example, if you have to wash the dishes after every meal that would be considered a **chore**. This is closest in meaning to answer choice **(A) task**.
2. **Conquer** means to overcome and take control of a place or people usually by use of military force. For example, one country might send its army into another country to try to **conquer** it. This is closest in meaning to answer choice **(D) defeat**.
3. **Sluggish** means slow moving or inactive. For example, a snail moves at a **sluggish** pace. This is closest in meaning to answer choice **(C) lazy**.
4. **Create** means to bring something into existence. For example, an artist would **create** a beautiful sculpture. This is closest in meaning to answer choice **(D) invent**.
5. **Obvious** means easily perceived or understood. For example, when you look at the sky it is **obvious** what color it is. This is closest in meaning to answer choice **(B) evident**.
6. **Abstract** means existing in thought or as an idea but not having a physical existence. For example, love is an **abstract** idea. This is closest in meaning to answer choice **(C) theoretical**.

7. **Ingenious** means clever, original or inventive. For example, Albert Einstein had many **ingenious** ideas. This is closest in meaning to answer choice **(D) imaginative**.
8. **Vigorous** means strong, healthy and full of energy. For example, young people are often described as being **vigorous** or energetic. This is closest in meaning to answer choice **(B) lively**.
9. **Thrifty** means using money and other resources carefully and not wastefully. For example, shopping for sales and discounts is an example of a person being **thrifty**. This is closest in meaning to answer choice **(A) prudent**.
10. **Obstruct** means to block an opening or to be or get in the way of something. For example, a tree that has fallen down in a storm may **obstruct** the road. This is closest in meaning to answer choice **(B) block**.
11. **Pretentious** means making an exaggerated outward show or to be flashy. For example, a person who tries to express their wealth by wearing big gaudy jewelry might be considered **pretentious**. This is closest in meaning to answer choice **(C) showy**.
12. **Intrigue** means to spark curiosity or interest. For example, a new piece of technology might **intrigue** you and make you curious to learn more about it. This is closest in meaning to answer choice **(B) fascinate**.
13. **Mediocre** means of only moderate quality or ordinary. For example, if you go to a restaurant and the food is **mediocre** you would not be very impressed with it but it wouldn't be terrible. This is closest in meaning to answer choice **(D) average**.
14. **Cunning** means clever and scheming, normally to achieve something. For example, a **cunning** thief would be able to get away with a crime without being caught. This is closest in meaning to answer choice **(C) crafty**.
15. **Reflective** means relating to or characterized by deep thought. For example, if you analyze and think about your past decisions you could be described as **reflective**. This is closest in meaning to answer choice **(C) thoughtful**.
16. **Disgrace** means the loss of grace, respect or honor. For example, some people might consider it a **disgrace** to get caught cheating. This is closest in meaning to answer choice **(D) shame**.
17. **Oblivious** means not aware of or not concerned with what is happening around you. For example, if you are deep in thought you might be **oblivious** to someone saying hello and not respond. This is closest in meaning to answer choice **(A) unaware**.

18. **Immaculate** means free from flaws or mistakes. For example, a coin collector who has an old coin in perfect condition might describe it as **immaculate**. This is closest in meaning to answer choice **(B) spotless**.

Synonyms Practice Set 6

1. **Nourishing** means containing substances necessary for growth, health and good condition. For example many people agree that fruits and vegetables are very **nourishing** for the human body. This is closest in meaning to answer choice **(C) nutritious**.
2. **Obstacle** means a thing that blocks one's way or prevents or hinders progress. For example, not having enough money might be an **obstacle** to going to college. This is closest in meaning to answer choice **(B) hurdle**.
3. **Destructive** means causing a lot of harm or damage. For example, a hurricane is very **destructive** to most environments it encounters. This is closest in meaning to answer choice **(A) damaging**.
4. **Refrain** means to stop oneself from doing something. For example, if you know saying something will hurt your friends feelings, you might **refrain** from saying it while they are around. This is closest in meaning to answer choice **(A) withhold**.
5. **Lavish** means very rich, elaborate or luxurious. For example, many actors and famous musicians live a **lavish** lifestyle full of fancy restaurants and expensive things. This is closest in meaning to answer choice **(B) luxurious**.
6. **Conceited** means excessively proud or full of oneself, vain, or overly confident. For example, telling all your friends and family about how good looking you are they might think you are a bit **conceited**. This is closest in meaning to answer choice **(A) egotistical**.
7. **Apprehensive** means anxious or fearful that something bad or unpleasant will happen. For example, if you are walking down a dark alley alone at night you might feel **apprehensive** that someone is following you. This is closest in meaning to answer choice **(D) worried**.
8. **Penetrate** means to push through or into something. For example, when you go to the doctor and get a shot, the needle **penetrates** your skin. This is closest in meaning to answer choice **(B) pierce**.
9. **Harsh** means unpleasantly rough or severe. For example, if there is bad weather during your flight, the landing might be a little **harsh**. This is closest in meaning to answer choice **(D) rough**.
10. **Prudent** means acting with or showing care and thought for the future. For example, it would be **prudent** to ask an expert before investing your money. This is closest in meaning to answer choice **(C) careful**.

11. **Vow** means a promise. For example, many monks take a **vow** of silence, meaning they do not speak to anyone for a period of time. This is closest in meaning to answer choice **(A) pledge**.
12. **Sarcastic** means to be sharp and often satirical or ironic. For example, if you make a mistake and someone says “well done!”, that is a **sarcastic** response. This is closest in meaning to answer choice **(C) ironic**.
13. **Passive** means accepting or allowing what others do, without active response or resistance. For example, if someone is angry and is yelling at you and you accept it and do not respond, you are taking a **passive** approach. This is closest in meaning to answer choice **(B) unresisting**.
14. **Wager** means to gamble. For example, someone who likes to gamble might **wager** money on who they think will win a football game. This is closest in meaning to answer choice **(A) bet**.
15. **Expand** means to become or make larger. For example, reading a lot of books will help you to **expand** your vocabulary. This is closest in meaning to answer choice **(A) enlarge**.
16. **Deplete** means to use up the supply or resources of something. For example, if you use your cell phone all day without charging it you might **deplete** the battery. This is closest in meaning to answer choice **(B) drain**.
17. **Taunt** means a remark made in order to anger, hurt or provoke someone. For example, at a sports game fans might **taunt** players on the opposing team to try to throw them off. This is closest in meaning to answer choice **(A) insult**.
18. **Feud** means an argument or dispute. For example, if siblings do not speak to each other for many years over something they disagreed on, this would be considered a **feud**. This is closest in meaning to answer choice **(D) conflict**.

Synonyms Practice Set 7

1. **Apathetic** means showing or feeling no interest, enthusiasm or concern. For example, if you don’t vote in the presidential election it might be because you feel **apathetic** about the candidates who are running. This is closest in meaning to answer choice **(D) disinterested**.
2. **Abundant** means existing or available in large quantities. For example, water is very **abundant** in the ocean. This is closest in meaning to answer choice **(C) plentiful**.
3. **Unpredictable** refers to something that cannot be predicted or something where the outcome is unknown. For example, if someone has a bad temper, their reactions to an upsetting situation might be **unpredictable**. This is closest in meaning to answer choice **(C) unstable**.

4. **Insignificant** means too small or unimportant to be worth thinking about. For example, to a bear, a bee sting would be **insignificant** because they wouldn't even notice it. This is closest in meaning to answer choice **(B) unimportant**.
5. **Overwhelming** means very great in amount or very strong. For example, trying to work 3 jobs at the same time would probably be **overwhelming**. This is closest in meaning to answer choice **(B) overpowering**.
6. **Hysterical** means overcome by extreme emotion many times describing something funny. For example, a good comedian could be described as **hysterical**. This is closest in meaning to answer choice **(A) hilarious**.
7. **Controversial** means likely to create public disagreement. For example, bringing up politics in a group is oftentimes **controversial**. This is closest in meaning to answer choice **(D) disputed**.
8. **Deceitful** means guilty of deceiving or misleading others. For example, someone who lies all the time would be described as **deceitful**. This is closest in meaning to answer choice **(C) dishonest**.
9. **Vigilant** means keeping a careful watch for possible danger or difficulties. For example, burglars would want to be **vigilant** in order to not get caught. This is closest in meaning to answer choice **(D) observant**.
10. **Primitive** means being the first or one of the first of something; a basic version. For example, fire was discovered a long time ago by **primitive** humans. This is closest in meaning to answer choice **(C) ancient**.
11. **Subtle** means using clever or indirect ways to achieve something; not obvious. For example, two pictures that are almost identical will have **subtle** differences. This is closest in meaning to answer choice **(C) understated**.
12. **Meddle** means to interfere with something that is not your concern. For example, if your brother comes into your room and goes through your things you might tell him not to **meddle** in your belongings. This is closest in meaning to answer choice **(A) interfere**.
13. **Justify** means to show or prove something is right or reasonable. For example, if you do something that someone thinks is wrong you might try to **justify** why you did it. This is closest in meaning to answer choice **(B) prove**.
14. **Keen** means intellectual alert or highly developed. For example, if learning new things comes easy to you, you probably have a **keen** mind. This is closest in meaning to answer choice **(A) sharp**.

15. **Discreet** means unnoticeable or unpretentious. For example, when you tell someone a secret in a crowded place, you will probably be **discreet** about it so no one else notices. This is closest in meaning to answer choice **(A) subtle**.
16. **Elegant** means pleasingly stylish in appearance or behavior. For example, the way a swan glides across the water could be described as **elegant**. This is closest in meaning to answer choice **(D) graceful**.
17. **Candid** means truthful and straightforward. For example, if you ask someone for their honest opinion on something you want them to be **candid** and tell you the truth. This is closest in meaning to answer choice **(B) honest**.
18. **Abrupt** means sudden or unexpected. For example, if someone cuts you off while you're driving you will have to make an **abrupt** stop. This is closest in meaning to answer choice **(B) sudden**.

Synonyms Practice Set 8

1. **Rebel** means to oppose or disobey someone or something. For example, if you disagree with a rule you might **rebel** against it and not follow it. This is closest in meaning to answer choice **(B) disobey**.
2. **Contradict** means to imply the opposite of something. For example, if you say one thing and then at a later time say the opposite you would **contradict** yourself. This is closest in meaning to answer choice **(D) oppose**.
3. **Hazardous** means risky or dangerous. For example, playing football without a helmet could be **hazardous** to your body. This is closest in meaning to answer choice **(C) dangerous**.
4. **Devoted** means very loving or loyal. For example, dogs are usually **devoted** to their owners. This is closest in meaning to answer choice **(C) loyal**.
5. **Empathetic** means showing the ability to understand and share the feelings of another person. For example, when someone is going through a hard time and you put yourself in their shoes and understand how they are feeling, you are being **empathetic**. This is closest in meaning to answer choice **(A) compassionate**.
6. **Reprimand** means expressing disapproval or criticism of someone because of their actions. For example, if you come home past your curfew your parents might **reprimand** you. This is closest in meaning to answer choice **(C) scold**.
7. **Impoverished** means to be made poor or deprived of strength. For example, there are many areas of the world that are very poor and people live in **impoverished** communities. This is closest in meaning to answer choice **(A) poor**.

8. **Eccentric** means unconventional and slightly strange. For example, someone who dresses in very bright flashy colors and wears a lot of strange looking clothes might be described as **eccentric**. This is closest in meaning to answer choice **(D) odd**.
9. **Wary** means feeling or showing caution about possible dangers or problems. For example, before a big storm you might be **wary** of the damage it might cause. This is closest in meaning to answer choice **(B) cautious**.
10. **Mimic** means to imitate someone or something, especially for amusement. For example, a comedian might **mimic** someone's actions while doing an impression. This is closest in meaning to answer choice **(C) imitate**.
11. **Terminate** means to bring to an end. For example, the branches of certain trees **terminate** or end in flower clusters. This is closest in meaning to answer choice **(D) finish**.
12. **Impartial** means treating everyone equally; not biased. For example, judges are supposed to be **impartial** and fair when handing out sentences. This is closest in meaning to answer choice **(B) fair**.
13. **Deficient** means not having enough of a specified quality or nutrient. For example, if you do not get outside and get enough sun you might be vitamin D **deficient**. This is closest in meaning to answer choice **(B) lacking**.
14. **Scold** means to angrily point out a mistake or error. For example, if you are late to class your teacher might **scold** you. This is closest in meaning to answer choice **(D) reprimand**.
15. **Hideous** means ugly or disgusting to look at. For example, many halloween masks are **hideous** on purpose. This is closest in meaning to answer choice **(B) ugly**.
16. **Scour** means to intensely and carefully search for someone or something. For example, if your dog runs away you might **scour** the whole neighborhood looking for them. This is closest in meaning to answer choice **(B) search**.
17. **Skeptical** means having doubts or concerns about someone or something. For example, if you don't trust someone you would be **skeptical** of the things they tell you. This is closest in meaning to answer choice **(C) doubtful**.
18. **Numerous** means great in number. For example, the Amazon rainforest has **numerous** species of plants and animals. This is closest in meaning to answer choice **(A) many**.

Synonyms Practice Set 9

1. **Sentimental** means relating to or involving feelings of emotions. For example, if you see an old picture of yourself it might make you **sentimental** about the past. This is closest in meaning to answer choice **(A) emotional**.
2. **Graceful** means having or showing elegance. For example, the way a ballerina dances could be described as **graceful**. This is closest in meaning to answer choice **(C) elegant**.
3. **Perplex** means to cause someone to feel confused or baffled. For example, in a mystery movie the facts of a case often **perplex** the characters. This is closest in meaning to answer choice **(B) confuse**.
4. **Seldom** means not often; rarely. For example, people love to live in southern california because it **seldom** rains. This is closest in meaning to answer choice **(B) infrequently**.
5. **Sociable** means willing to talk or engage in activities with other people. For example, someone who has a lot of friends is probably a very **sociable** person. This is closest in meaning to answer choice **(C) outgoing**.
6. **Recede** means to go or move back or further away from a previous position. For example, when some men get older their hairline starts to **recede** or move farther back on their head. This is closest in meaning to answer choice **(A) decrease**.
7. **Sanctuary** means the protection from danger or a difficult situation that is provided by a safe place. For example, if someone feels unsafe in their country they might seek **sanctuary** in a safer one. This is closest in meaning to answer choice **(D) protection**.
8. **Abhor** means to think of something or someone with disgust. For example, a vegetarian might **abhor** the thought of eating meat. This is closest in meaning to answer choice **(C) hate**.
9. **Manipulative** means someone or something that intends to control or influence others, often in an unfair and selfish way. For example, a child who cries to get attention even though nothing is actually wrong is being **manipulative**. This is closest in meaning to answer choice **(A) calculating**.
10. **Peril** means serious and immediate danger. For example, a rock climber who loses his grip while climbing is in **peril**. This is closest in meaning to answer choice **(A) danger**.
11. **Somber** means dark or dull in color or tone. For example, a rainy cloudy day might be described as **somber**. This is closest in meaning to answer choice **(B) gloomy**.
12. **Specific** means clearly defined or identified. For example, if you tell someone you will arrive at their house at 11:23 a.m., that is a very **specific** time. This is closest in meaning to answer choice **(D) particular**.

13. **Elementary** means straightforward or uncomplicated. For example, if you are explaining something to a child you might want to make sure the explanation is **elementary** so they understand easier. This is closest in meaning to answer choice **(B) basic**.
14. **Reform** means to make changes in something in order to improve it. For example, if a certain law is found to be unfair to a particular group of people, someone might try to **reform** it to make it more fair. This is closest in meaning to answer choice **(A) improve**.
15. **Betray** means violating a person's trust or belief. For example, if your best friend tells you a secret, you would probably not want to tell anyone else and **betray** them. This is closest in meaning to answer choice **(C) deceive**.
16. **Remote** means located a far distance away. For example, if you live off in the woods far away from the city people would say you live in a **remote** area. This is closest in meaning to answer choice **(D) distant**.
17. **Erupt** means to suddenly and/or violently break out of or eject. For example, an active volcano is dangerous because it can **erupt** at any time and eject lava on the surrounding environment. This is closest in meaning to answer choice **(C) eject**.
18. **United** means joined together for a common purpose or by common feelings. For example, after a tough loss a sports team might be **united** by their feelings of frustration. This is closest in meaning to answer choice **(D) joined**.

Synonyms Practice Set 10

1. **Accomplish** means to achieve or complete successfully. For example, if you set a goal and you **accomplish** it, you succeed in reaching your goal. This is closest in meaning to answer choice **(D) achieve**.
2. **Suspense** means a feeling of excitement or anxious uncertainty about what might happen. For example, if you just took a test you might feel **suspense** waiting for your grade. This is closest in meaning to answer choice **(A) anticipation**.
3. **Condescending** means having or showing a feeling of superiority towards others. For example, if you interrupt someone to correct their pronunciation, that might be considered **condescending**. This is closest in meaning to answer choice **(C) patronizing**.
4. **Chaotic** means in a state of complete confusion and disorder. For example, the scene right after a car accident could probably be described as **chaotic**. This is closest in meaning to answer choice **(D) disordered**.

5. **Obscure** means not discovered or known about. For example, if someone uses a lot of words that you don't know you could say their vocabulary is **obscure**. This is closest in meaning to answer choice (A) **unclear**.
6. **Contemplating** means looking thoughtfully for a long time at something. For example, if you are trying to make a big decision in your life, you might be **contemplating** it for a while. This is closest in meaning to answer choice (A) **thinking**.
7. **Objective** means not influenced by personal feelings or opinions. For example, journalists are supposed to be **objective** when reporting the news and stick to just the facts. This is closest in meaning to answer choice (B) **fair**.
8. **Intricate** means very complicated or detailed. For example, a spider's web could be described as **intricate** and very elaborate. This is closest in meaning to answer choice (B) **complex**.
9. **Prone** means likely to do or experience something. For example, if you are **prone** to headaches, it means you probably get headaches more often than most people. This is closest in meaning to answer choice (A) **likely**.
10. **Uniform** means remaining the same in all cases and at all times. For example, golf balls have a very **uniform** size so all players are playing with similar equipment. This is closest in meaning to answer choice (C) **constant**.
11. **Previous** means occurring before something else in time or order. For example, Barack Obama is no longer the President, he is a **previous** president. This is closest in meaning to answer choice (B) **prior**.
12. **Belittle** means to make someone or something seem unimportant. For example, a bully might try to **belittle** one of his classmates. This is closest in meaning to answer choice (D) **criticize**.
13. **Feasible** means possible to do easily or conveniently. For example, if you have a treadmill in your house, it is **feasible** for you to run everyday. This is closest in meaning to answer choice (A) **practical**.
14. **Tragedy** means an event causing great suffering, destruction and distress. For example, a death in the family is usually a **tragedy**. This is closest in meaning to answer choice (C) **misfortune**.
15. **Accurate** means correct in all details or exact. For example, if someone asks you a question and you answer correctly, your answer is **accurate**. This is closest in meaning to answer choice (B) **correct**.
16. **Original** means existing from the beginning or the first or earliest of something. For example, an **original** painting or work of art is very expensive because it is one of a kind. This is closest in meaning to answer choice (D) **novel**.

17. **Inept** means having or showing no skill in something. For example, if you have never played volleyball before, the first time you try you may be pretty **inept**. This is closest in meaning to answer choice **(B) unskilled**.
18. **Assert** means to state a fact or belief confidently and forcefully. For example, if you are in a debate you will usually **assert** your point of view to the person opposing you. This is closest in meaning to answer choice **(C) declare**.
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Sentence Completion

Along with testing your vocabulary, sentence completions require you to use logic and reasoning to find the answer. The three most common logical categories that sentence completion questions fall into are *cause and effect*, *contrast*, and *continuation or restatement*. Identifying the type of question can help us in finding the correct answer.

1. **Cause and effect:** These types of questions set up two situations in which one causes the other to happen. Clue words for this type of question are *because, so, therefore, accordingly, thus, hence, as a result, if/then, after*.
2. **Contrast:** These types of questions set up one situation or idea and then contrast it with an opposite or different situation or idea. Clue words for this type of question are *not, on the other hand, but, otherwise, however, although, even though, still, despite, regardless, while*.
3. **Continuation or Restatement:** These types of questions set up one idea in the first half of the sentence and continue it or restate it in a different way in the second half of the sentence. In some ways these questions are the opposite of a contrast question. Clue words for this type of question are *and, also, in addition to, as well, along with, besides, likewise, not only*.

These categories are only to be used as a framework to help us figure out the logical direction of a question. Sometimes a question will not fit into one of these three categories nicely and we will have to use context clues from the sentence to find the answer. We should always be looking for context clues in addition to thinking about these three common categories.

Sentence Completion Practice Set 1

1. **The correct answer is choice (B) inferior, which means not as good as or less good.** This is an example of a contrast question. The clues in this sentence are the words “even though” at the start of the sentence; this lets us know that Sam’s laptop should be described in an opposite way than we would describe his classmates’ expensive laptops. Since Sam’s laptop is less expensive, we can assume his features were **inferior** or worse than his classmates.

2. **The correct answer is choice (D) priority, which means something that is more important than something else.** This is an example of a contrast question. The clue in this question is the word “although” at the start of the sentence. In the first half of the sentence, we see that Sara wanted to go out to the movies with her friends. The next part of the sentence should contrast Sara wanting to go to the movies, so studying was more important, or took **priority**, over her social life (going to the movies).
3. **The correct answer is choice (A) reinforcement, which is the process of encouraging a behavior.** This is an example of a contrast question. In the first part of the question we learn that Mrs. Johnson wanted her son to stop throwing temper tantrums. The sentence goes on to say this is likely difficult “without” continuous blank. The word “without” tells us that the answer we are looking for will be in contrast, or opposite, to the idea that it will be difficult for Mrs. Johnson to get her son to stop throwing tantrums. Reinforcement, or encouraging a new behavior, would make it easy for Mrs. Johnson to get her son to stop throwing tantrums.
4. **The correct answer is choice (C) feeble, which means lacking physical strength.** This is an example of a contrast question. The clue in this question is the word “despite” in the middle of the sentence; this lets us know that the two ideas in this sentence will be in contrast, or opposite, to each other. In the second half of the sentence, we learn that Cindy's grandmother was given permission to go home by her doctors. This usually means that someone is feeling better. So the opposite of this would be Cindy’s grandmother remained **feeble** or not strong.
5. **The correct answer is choice (C) likely, which means probably will happen.** This is an example of a cause and effect question. The clue in this question is the word “if” in the middle of the sentence; this lets us know that one situation in this sentence will cause the other to happen. In the first half of the sentence, we learn that Josiah is easily distracted. The second half of the sentence sets up the cause: Josiah spending hours on social media; the next part of the sentence is the effect. Since Josiah is easily distracted, it would make sense that if he spends hours on social media, he will probably or **likely** forget to do his homework because he is distracted. : Josia **likely** or probably forgetting to do his homework.
6. **The correct answer is choice (D) graceful, which means having or showing elegance.** This is an example of a contrast question. The clue in this question is the word “despite” towards the end of the sentence. In the second half of the sentence, we learn that Sasha is nervous while performing her ballet routine. The word “despite” tells us that Sasha’s performance should be the opposite of what you would expect if she was nervous. Therefore, she probably remained poised, calm, and **graceful** throughout the entire audition. Another clue in this sentence is that the other dancers envied, or were jealous of, Sasha’s performance. This tells us that the adjective in the blank should be positive.
7. **The correct answer is choice (B) violate, which means to break or fail to follow.** This is an example of a contrast question. The clue in this question is the word “though” at the start of the sentence. In the first half of the sentence, we learn that a young woman was hungry and without

money. This might lead someone to do something they would not normally do such as break a law. The “though” tells us that what she did is opposite of what we would expect, so she refused to **violate** or break the law and steal bread.

- 8. The correct answer is choice (A) pollution, which means anything that is harmful to the environment.** This is an example of a cause and effect question. The clues in this question are the words “has become” in the middle of the sentence. In the second half of the sentence, we see that the air has become significantly more unhealthy. This is the effect. and it would make sense that the cause is **pollution**.
- 9. The correct answer is choice (A) morals, which are a person's beliefs.** This is an example of a cause and effect question. The clue in this question is the word “because” towards the end of the sentence. When we see the word because it is almost always followed by the cause in the sentence. In the first half of the sentence, we learn that Catie always does the right thing. The effect is Catie refusing to sneak out with her friends, and the cause is the blank. We know sneaking out is usually against the rules, so if Catie always does the right thing then she wouldn't want to sneak out because it is against her beliefs or **morals**.
- 10. The correct answer is choice (D) govern, which means to control or lead.** This is an example of a continuation or restatement question. The clue in this question is the word “and” towards the end of the sentence. This tells us that the second part of the sentence is going to continue a similar idea or restate an idea or word from the first half of the sentence. In the first half of the sentence, we see that a community wanted more order and structure. To do this, it would make sense to select a leader who could enforce the laws, or **govern**. In these types of questions look for words or phrases that have similar meanings to the answer you are looking for. For example in this question “provide structure”, “keep people safe”, and “enforce the laws” are all things that someone who is governing would do.
- 11. The correct answer is choice (B) diversity, which means variety.** This is an example of a continuation or restatement question. The clue in this question is the word “demonstrate” in the middle of the sentence. In the first half of the sentence, it states that there are many types of animals in Africa. It then goes on to list out those animals and then says this demonstrates blank. The answer in this question must continue the idea that Africa has many different types of animals, or said another way it has **diversity** or a variety of animals.
- 12. The correct answer is choice (C) hold off on buying a new car.** This is an example of a cause and effect question. The clues in this question are the words “in light of” at the start of the sentence. In the first half of the sentence we learn that Ellie has lost her job. This is the cause in this sentence and the effect is that she is going to hold off on buying her new car. When people lose their jobs, they are more careful with how they spend their money because they are no longer making any, so it makes sense that Ellie wouldn't want to make a big purchase like a car.

- 13. The correct answer is choice (B) to play video games all night instead of studying.** This is an example of a contrast question. The clues in this question are the words “in spite” at the start of the sentence. In the first half of the sentence, we learn that Tim’s teacher told him there would be a quiz tomorrow. You would expect this would make someone want to study, but in spite of getting this information, Tim decided to do the opposite of what you would expect: not study and play video games all night.
- 14. The correct answer is choice (A) put up flyers around the neighborhood.** This is an example of a cause and effect question. The clue in this question is the word “since” at the start of the sentence. In the first half of the sentence, we learn that Niko’s cat has gone missing. This is the cause, and the effect of this is that Niko put up flyers around the neighborhood. When someone’s pet runs away, one of the usual things they do as a result of this is put up flyers in the area they think their pet might be.
- 15. The correct answer is choice (D) it was pleasant outside with a slight breeze.** This is an example of a contrast question. The first half of the sentence sets up one situation; the summers have felt extra hot in Phoenix. The second half of the sentence starts with the word “but” which tells us that the next part of the sentence is going to be the opposite or in contrast with the first. Answer choices (A) and (B) say the same thing as the first part of the sentence. Answer choice (C) is unrelated to the first part of the sentence. That leaves us with answer choice (D) which says the opposite of the first part of the sentence.
- 16. The correct answer is choice (C) uses her can when she leaves the house.** This is an example of a cause and effect question. The clues in this question are the words “due to” at the beginning of the sentence. The first half of the sentence gives us the cause: aunt Sue having a bad knee. The second half is asking for the effect. Answer choice (A) doesn’t make sense because you wouldn’t jog if you had a bad knee. Answer choice (B) might be the cause of her bad knee but we are looking for the effect in this question. Answer choice (D) is unrelated to Aunt Sue having a bad knee. Answer choice (C) makes sense because if you had a bad knee you might need to use a cane to take pressure off of it.

Sentence Completion Practice Set 2

- 1. The correct answer is choice (B) negative, which means not desirable or unfavorable.** This is an example of a cause and effect question. The clue in this sentence is the word “after” at the beginning of the sentence, which tells us that after one event happens, some other event happens as a result. The first part of the sentence gives us the cause: the food critic biting into slightly undercooked chicken. Serving undercooked chicken is not a good thing so we can assume that the effect of this would be writing a bad or **negative** review of the restaurant.
- 2. The correct answer is choice (C) imported, which refers to a good or service that is brought into one country from another.** This is an example of a continuation or restatement question. In this sentence we see that the United States did something to coffee bags from other countries. The clues

in this sentence are the words “from countries” in the second part of this sentence, which are very similar to the definition of the word **import**. In these types of questions remember to look for words or phrases that are similar to the definition of your answer.

3. **The correct answer is choice (D) grief, which means deep sadness.** This is an example of a cause and effect question. The clue in this sentence is the word “after” at the start of the sentence. When we see the word after used in this context, we can assume the event that follows is the cause. In this case Mark losing his wife. When someone close to you dies, it’s a normal reaction to be upset, so we can assume the effect of his wife dying would be that Mark is sad or has **grief**.
4. **The correct answer is choice (A) detrimental, which means harmful or damaging.** This is an example of a contrast question. The clue in this sentence is the word “although” at the beginning of the sentence, which tells us that the two ideas in this sentence are going to be in contrast to each other. In the first half of the sentence we learn that Mrs. James is feeling better. The second half of the sentence says that the doctors felt it would be blank to her health to move her from the hospital. Usually when someone is feeling better, leaving the hospital would not be harmful to them, so the opposite of this would be that it would be **detrimental** to her health.
5. **The correct answer choice is (B) articulate, which means the ability to speak fluently.** This is an example of a cause and effect question and a contrast question. The clues in this sentence are the words “since” at the beginning of the sentence, and “surprising” in the middle of the sentence. The word since is a synonym for because and signals that one event or situation is the cause of another event or situation. The word surprise tells us that the idea or situation in the second half of the sentence is not what we would normally assume. In the first half of the sentence we learn that Charlie had just recently started to learn French, this is the cause. The effect was it was surprising how blank he was. If someone just started to learn a new language, we would normally assume that they would not be very good at it. The opposite of this would be that Charlie was able to speak French very well or be **articulate**, which would be surprising.
6. **The correct answer is choice (C) crave, which means to want.** This is an example of a cause and effect question. The clue in this sentence is the word “since” at the start of the sentence. The word since is a synonym for because and signals that one event or situation is the cause of another event or situation. In this case the cause is Kelly recently giving up sweets. If someone recently gave something up it would be normal for them to still want or **crave** that thing. We can further justify our answer because the sentence says she found it hard to resist eating a candy bar. When you want or **crave** something it is usually harder to resist that thing. Remember some questions have more than one way to find an answer.
7. **The correct answer is choice (A) advocate, which means a person who publicly supports a cause.** This is an example of a continuation or restatement question. In the second half of the sentence it says that Eleanor Roosevelt fought for the rights of women and African Americans, so we are looking for a word that means you would fight for a belief you had. Being an **advocate** of something would usually mean you would fight for that thing, in this case social justice.

8. **The correct answer is choice (D) motivation, which means the desire to do something.** This is an example of a contrast problem. The clues in this sentence are the words “even though” in the middle of the sentence. This tells us that the idea or situation in the second half of the sentence will be in contrast to the idea or situation in the first. In the second part of the sentence it says that Liam knew his science project was worth half his grade. Because his project was worth so much of his grade we would normally assume that Liam would want to do it, so the opposite of this would be that he did not have the desire or **motivation** to complete it.
9. **The correct answer is choice (D) miserable, which means unhappy or uncomfortable.** This is an example of a continuation or restatement question. In these types of questions we want to look for an answer that has a similar definition to clue words in the question. The clues in this question are the words “incredibly loud” and “obnoxious”. If someone was being loud and obnoxious it would probably make you uncomfortable, so the answer **miserable** makes sense.
10. **The correct answer is choice (C) infection, which means the presence and growth of bacteria or other microorganisms.** This is an example of a cause and effect question. The clues in this sentence are the words “if” and “cause” at the beginning and towards the end of the sentence respectively. When we see these or similar words we should be thinking “if” A happens it will “cause” B. One of the main reasons you would wash and clean a wound would be to remove any bacteria or other foreign objects from it. We can assume not doing so could likely cause an **infection**.
11. **The correct answer is choice (B) abandon, which means to stop caring for or to leave something somewhere.** This is an example of a cause and effect question. In this question we are given the effect: Harry decided to rescue the cat and take it to an animal shelter. To find the answer we must think about what would cause him to do this. Seeing a car left on the side of the road or **abandoned** makes the most sense. Another clue in this sentence is that it says Harry could not understand how someone could just blank. This tells us that the word we are looking for would be something that is not a normal thing to do, like leaving a pet on the side of the road.
12. **The correct answer is choice (A), argue that Arizona is better.** This is an example of a contrast question. The clues in this sentence are the words “while others”. The first half of the sentence states that some people think New Mexico is the best state to live in. Because it says “while others” we know that whatever comes next must be in contrast to the idea that New Mexico is the best state to live in. Choice (A) gives us a different state that people say is better, or a contrasting idea. Answer choices (B) and (C) support rather than contrast the first half of the sentence. Answer choice (D) has nothing to do with the first half of the sentence.
13. **The correct answer is choice (C), she does not want to go rock climbing.** This is an example of a cause and effect question. The clues in this sentence are the words “due to”. In the first part of the sentence we learn that Virginia has a fear of heights, which is the cause. We can assume the effect of this would be Virginia wouldn’t want to do anything that involves being up high. The only answer that involves Virginia being up high is choice (C).

- 14. The correct answer is choice (D), she will likely miss the rest of the season.** This is an example of a cause and effect question. The clue in this question is the word “since” at the beginning of the sentence, which tells us that because one thing happened, another will happen as a result. The cause in this question is Paula breaking her wrist playing soccer. When someone breaks a bone they have to rest it and be cautious in order for it to heal. We can assume that it would be hard for Paula to be cautious with her broken wrist if she was playing soccer, so it makes sense that she would likely miss the rest of the season to let it heal.
- 15. The correct answer is choice (A), bought him a plane ticket to Canada for his graduation present.** This is an example of a cause and effect question. The clue in this question is the word “so” in the middle of the sentence, which tells us that the idea or situation in the first half of the sentence causes the action in the second half of the sentence to happen. The cause in this question is Erik having never been outside the US. The effect, his parents buying him a plane ticket to Canada, makes sense because if Erik has never been outside the US he would probably want to travel to another country.
- 16. The correct answer is choice (B), he cannot remember where he put the shovel.** This is an example of a contrast question. The clue in this question is the word “but” in the middle of the sentence. In the first half of the sentence we see that Jeffery wants his son to shovel. The word “but” implies that although Jeffery wants this to happen it cannot for some reason, so we are looking for an answer that would prevent Jeffrey's son from shoveling. Jeffery not remembering where he put the shovel would prevent his son from being able to shovel.

Sentence Completion Practice Set 3

- 1. The correct answer is choice (C) sufficient, which means enough.** This is an example of a cause and effect question. The clue in this question is the word “since” at the start of the sentence. In the first half of the sentence it says that the pandemic caused people to panic and stock up on supplies, which is the cause. The effect is that the grocery stores were worried they would not have blank amount of food. If people panicked and stocked up on supplies, it would make sense that the grocery stores would worry they wouldn't have enough, or **sufficient**, food.
- 2. The correct answer is choice (D) foul, which means disgusting or unpleasant.** This is an example of a cause and effect question. The clue in this question is the word “after” at the beginning of the sentence. This tells us that after some action or situation, another action or situation happens as a result. The cause in this sentence is Ben accidentally leaving his dirty dishes in the sink for over a week. If dirty dishes are left somewhere without being cleaned it would make sense for them to start to have a bad or **foul** smell or odor, which is the effect.
- 3. The correct answer is choice (B) retire, which means to leave your job and stop working.** This is an example of a contrast question. The clue in this question is the word “but” in the middle of the sentence. The sentence says that Rich had planned to do something but was unable to because of an

economic crash that will likely force him to stay at his job. We know that whatever he was planning on doing has to be the opposite of what he is likely going to be doing now. Being able to **retire** is the opposite of having to stay at his job.

4. **The correct answer is choice (A) commitment, which means an agreement or pledge to do something in the future.** This is an example of a continuation or restatement question. The sentence starts by saying during a wedding ceremony. We know that during a wedding two people make a promise to love and support each other for the rest of their lives so the answer must continue or restate that idea. Making a promise for the future is the same as a **commitment**.
5. **The correct answer is choice (B) grateful, which means feeling an appreciation for someone or something.** This is an example of a continuation or restatement question. The clue in this sentence is the word “and” in the middle of the sentence, which tells us that the second part of the sentence is going to continue the idea from the first part. In the first part of the sentence it says I had the pleasure of working with Barack Obama. Pleasure indicates a positive feeling so the answer should be a word with a positive meaning. Feeling appreciation or being **grateful** is a positive feeling.
6. **The correct answer is choice (C) adapt, which means to adjust.** This is an example of a cause and effect question. We know this because the words “having moved” at the start of the sentence could be replaced with the words “because she moved” and the meaning of the sentence doesn’t change. The cause in this sentence is Jenna moving around the country three times this year. The effect is how she handles this change, so it makes sense that she would have to adjust or **adapt** to her new school environment.
7. **The correct answer is choice (D) advantage, which means a favorable position.** This is an example of a cause and effect question. The clue in this question is the word “after” at the start of the sentence. The cause is Linda receiving a perfect score on her SAT test. We know that colleges use the SAT test as part of their criteria for admissions. So the effect of doing well on it would mean you were more likely to get in, or put another way you would have an **advantage** when applying.
8. **The correct answer is choice (C) tragic, which means something very sad.** This is an example of a continuation or restatement question. The second part of the sentence says Candice’s life was filled with poverty, disappointment, and constant hardships. The answer we are looking for should be a way to restate those adjectives describing her life. If someone's life was filled with all of those negative things it could also be described as sad or **tragic**.
9. **The correct answer is choice (A) treacherous, which means hazardous or dangerous.** This is an example of a contrast question. The clue in this question is the word “although” at the beginning of the sentence. The second half of the sentence says that Lydia was determined to drive to her family’s house. The answer we are looking for is one that would make Lydia's actions seem unusual. Usually we would prefer the roads to be clear and safe when we are driving so the opposite of this would mean that the roads were dangerous or **treacherous**.

- 10. The correct answer is choice (D) aimlessly, which means without purpose or direction.** This is an example of a continuation or restatement question. The clues in this question are the words “sleepwalk”, “wandering” and “without being conscious”. The answer we are looking for is a word that has a similar definition or feeling as those words. When you wander you usually don’t have a destination or direction and if you were sleepwalking and unconscious you would be most likely moving around without much intention or purpose, so **aimlessly** makes the most sense.
- 11. The correct answer is choice (B) delicate, which means fragile or easily breakable.** This is an example of a cause and effect question. The clue in this question is the word “because” at the beginning of the sentence. In this question we know the effect and are looking for the cause. The effect is the decorators wrapping the chandelier in a soft padding and trying not to break it. Because they were trying not to break it we can assume the cause of that was that it was easily breakable or **delicate**.
- 12. The correct answer is choice (B), my ears might get frostbitten by the time I arrived home.** This is an example of a cause and effect question. The cause in this question is the person in the sentence realizing that their hat barely covered their ears. Because the sentence also says that it was during a winter storm we can assume that it is probably cold and therefore if their hat isn’t fully covering your ears, this might cause them to worry that their ears would get very cold or even frostbitten.
- 13. The correct answer is choice (A) heavy rain and wind.** This is an example of a contrast question. The clues in this sentence are the word “but” and “unfortunately” in the middle of the sentence. In the first part of the sentence it says that there has been nice weather lately. The “but” tells us that whatever comes next is going to be in contrast to that first statement. The word “unfortunately” also helps us by letting us know that the next part of the sentence is probably negative. The only answer that is negative and opposite of nice weather is choice (A).
- 14. The correct answer is choice (A), he was unable to locate one of his star singers, Lawanda.** This is an example of a contrast question. The clue in this sentence is the word “but” in the middle of the sentence. We see in the first part of the sentence that the choir teacher thought all of his students were ready to begin class. Choices (B) and (D) have nothing to do with the first part of the sentence and choice (C) reinforces the beginning of the sentence rather than contrasting it. Answer choice (A) shows that the choir teacher’s thought that all the students in his class were ready was not correct because he couldn’t find one of his star students.
- 15. The correct answer is choice (C), ate the entire piece without asking Antoinette if she would like some.** This is an example of a question that doesn’t fall into a category nicely as we must use context clues to find the answer. The biggest clue in this sentence is the word “selfishly”, which means something done while only thinking about yourself. Choice (A) is not selfish because Amy offers to split the cake with Antoinette. Choice (B) isn’t selfish because Amy is just making a comment about how the cake looks. Choice (D) is the least selfish action Amy could take. This only leaves choice (C), which is selfish because Amy eats the cake without thinking about Antoinette.

16. The correct answer is choice (B), she didn't need to stop at the grocery store on her way home.

This is an example of a cause and effect question. The clue in this question is the word “so” in the middle of the sentence. The first part of the sentence is the cause and says Thomas has already done the dinner shopping. The effect of this is his wife not having to go to the store because Thomas has already gone.

Sentence Completion Practice Set 4

- 1. The correct answer is choice (D) discrimination, which means the unfair treatment of people based on some characteristic, usually age, race, or sex.** This is an example of a cause and effect question. The clue in this question is the word “because” at the start of the question. The cause in this question is many Americans being frustrated by the number of immigrants in the country. Frustration is a negative emotion, so we know the effect is probably negative and this eliminates answer choice (A). The remaining choices are all negative but only one word, **discrimination**, relates specifically to immigrants because immigrants are from another country.
- 2. The correct answer is choice (A) camouflage, which means to hide or disguise yourself.** This is a continuation or restatement question. The words “protect and hide” are a restatement of the definition of camouflage. Choice (C) burrow is incorrect even though some animals burrow to protect and hide themselves because saying burrow with their environment doesn't make sense.
- 3. The correct answer is choice (A) confident, which means believing strongly in your own abilities or being sure of yourself.** This is an example of a continuation or restatement question. The clue in this question is the word “with” at the start of the sentence. The second part of the sentence says that Giselle fearlessly strut down the runway and also how she made it look like she had been doing it for years. If you didn't believe in your abilities to do something, you might be nervous or timid when doing them. Because we know that Giselle was fearless while walking down the runway we know she must be **confident**.
- 4. The correct answer is choice (C) contagious, which means likely to spread and affect others.** This is an example of a cause and effect and a continuation or restatement question. The cause in this sentence is a performance by the comedian and the effect is the audience laughing but this alone doesn't help us find the answer. Because the blank describes the effect we should focus on the restatement aspect of this question and focus on the second part of the sentence. The sentence says the laughter spread like wildfire throughout the audience. The answer choice that is closest in meaning to spread is **contagious**.
- 5. The correct answer is choice (B) terminate, which means to end.** This is an example of a cause and effect question. The clues in this question are the words “if” and “then” at the beginning and in the middle of the sentence. This lets us know that if one thing happens, then something else will happen as a result. The cause in this sentence is someone not doing the work they were asked to do. If someone doesn't do the work they are asked to do at their job, the effect is they are most likely going to be fired. Another way to say fire someone is **terminate** or end their employment.

6. **The correct answer is choice (A) genre, which means a category of music or literature based on similar characteristics.** This is an example of a question that doesn't nicely fit into any one of the categories. We can find the answer by using context clues and by reading the sentence with each answer choice and deciding which makes the most sense. Because we know the blank has something to do with the words "fantasy fiction", we can eliminate choices (B), (C), and (D) as they don't really have anything to do with fantasy fiction specifically. Fantasy fiction is however a category of books, or a **genre**, characterized by things that are not real such as witchcraft, wizardry, and magic.
7. **The correct answer is choice (C) impolite, which means rude or not showing good manners.** This is an example of a continuation or restatement question. The clue in this question is the word "and" in the middle of the sentence. The sentence says that a child lacked manners and was disrespectful to his teachers, coaches, and parents. The key words are "lacked manners" and "disrespectful" which are a restatement of the definition of **impolite**.
8. **The correct answer is choice (B) frigid, which means very cold in temperature.** This is an example of a contrast question. The clue in this question are the words "while most" at the start of the sentence. This sentence is contrasting most penguins to the Galapagos penguin. In the second part of the sentence it says the Galapagos penguin lives on tropical islands near the equator. Because we are contrasting the Galapagos penguin to most penguins we are looking for something that makes them different, which in this case is where they live. We know that places near the equator have very hot climates so we are looking for an answer that would be different from that. Choices (A) and (C) are both associated with a hot climate so we can cross them out. Choice (D) has no association with the climate of a place. That leaves choice (B) **frigid**, which does have to do with climate and means cold.
9. **The correct answer is choice (D) hasty, which means hurried rushed.** This is an example of a contrast question. The clue in this question is the word "although" at the start of the sentence. The first half of the sentence tells us that Ray and Teresa had only been dating for three weeks. Usually people don't get married after only three weeks because that would be very fast to make such a big decision, but because they did we can describe their decision as rushed or **hasty**.
10. **The correct answer is choice (D) ignites, which means to catch on fire.** This is an example of a continuation or restatement question. The idea in this question is William making a fire and it is continued throughout the sentence, so we know that the answer we are looking for most likely has to do with fire. Answer choices (A), (B), and (C) do not specifically have to do with fire so we can cross those out. This leaves answer choice (D) as the correct answer choice.
11. **The correct answer is choice (C) inferior, which means something less in value or importance.** This is an example of a contrast question. This question is contrasting Paige and her sister. The sentence starts out saying Paige didn't do well in school or sports, both of which have a negative implication. The sentence goes on to say that Paige's sister was an honor student, captain of the volleyball team, and student body president, all of which have a positive implication. So because the

blank describes how Paige feels compared to her sister we can assume we are looking for a word with a negative meaning. Choice (A) and (B) are neither positive nor negative. Choice (D) is a positive word. That leaves choice (C) as the correct answer.

- 12. The correct answer is choice (B), Ismael bought a brand new bike.** This is an example of a cause and effect question. This sentence tells us the effect, which is Ismael’s cousin being surprised. We are looking for an answer that would cause his cousin to be surprised. The first part of the sentence says that Ismael hardly ever rode his bike so we would assume that he probably didn’t like riding it. If Ismael didn’t really like to ride his bike it would be surprising for him to buy a brand new one. The same way we would be surprised if someone who hardly ever cooked bought a new set of pots and pans.
- 13. The correct answer is choice (A), was grossed out by how dirty the floor was.** This is an example of a question that doesn't fit nicely into any of the categories. The best way to find the answer to this question would be the process of elimination. Choice (B) doesn’t make sense because why would not looking under her couch mean Gilda would buy a new one? The two ideas do not correlate with each other so we can eliminate that answer. Choices (C) and (D) both have nothing to do with the couch at all so we can eliminate them as well. That leaves choice (A) which logically makes sense. If you had never looked under a couch that probably means you have never cleaned under it. This would lead to it being very dirty on the floor underneath it.
- 14. The correct answer is choice (D), research different brands and models.** This is an example of a question that doesn’t fit nicely into any of the categories. We can answer this question by thinking about the timeline of buying a car. Buying a car is usually a big decision, so we can assume that like most other big decisions it is one that most people would think about and weigh their options. Choice (A) doesn’t have anything to do with buying a car so we can cross it out. Choice (C) doesn’t make sense because if Jerry was going to buy a car why would he buy a motorcycle first? That leaves choices (B) and (D). Choice (B) isn’t a bad answer because people often talk to friends before making a big decision, but it isn’t the best answer because Jerry asks them when they bought their first car and not what type of car they have. Choice (D) makes the most sense because researching different types of cars would give Jerry the knowledge to make the right choice when he buys his new car.
- 15. The correct answer is choice (B), the cost of the ticket was too high for Terry’s liking.** This is an example of a contrast question. The clue in this question is the word “but” in the middle of the sentence. The first part of the sentence says the play was a great performance altogether. Normally we would assume that this means people would be happy with their decision to go to the play but we know that we are looking for an answer that is in contrast to what we would normally assume. Terry feeling the cost of the ticket was too high probably means he was not happy with his decision to go to the play.
- 16. The correct answer is choice (C), learn to play pool.** This is an example of a contrast question. The clue in this question is the word “regardless” at the start of the sentence. This tells us that the

answer will be opposite to what we would normally think. The sentence tells us Maria has a broken arm so we would normally assume that she would be resting it and not putting it at risk. Because we are looking for the opposite of what is normal, we know that answer (C) is correct, because normally you wouldn't **learn to play pool** with a broken arm.

Sentence Completion Practice Set 5

- 1. The correct answer is choice (A) improvise, which means to perform spontaneously.** This is an example of a cause and effect question. The cause in this question is Sebastian forgetting his lines during the play. Because of this he is forced to blank, this is the effect of forgetting his lines. If someone forgets their lines in a play they only really have two options. They can say nothing or they can make up something to say on the spot, or **improvise**.
- 2. The correct answer is choice (C) reluctant, which means hesitant or unwilling.** This is an example of a cause and effect question. The clue in this question is the word “because” at the start of the sentence. The cause in this sentence is the fact that Diana had an allergic reaction the last time she ate seafood. Having an allergic reaction is a negative experience so it would make sense that Diana wouldn't want to have that experience again. In order to avoid that experience Diana would probably be hesitant or **reluctant** to eat octopus, which is seafood.
- 3. The correct answer is choice (A) failed, which means to be unsuccessful.** This is an example of a cause and effect problem. The clue in this sentence is the word “since” at the beginning of the sentence. This sentence gives us the effect, Carl missing the meeting, so we are looking for the cause. Choices (B) and (C) don't make sense because if his assistant had decided or remembered to tell him about the meeting he would not have missed it. Choice (D) might be true but we do not have enough information because just because someone hesitates to do something doesn't mean they don't do it. Choice (A) tells us that his assistant was unsuccessful at or **failed** to tell Carl about the meeting, which would cause him to miss it.
- 4. The correct answer is choice (D) inflate, which means to increase by a large amount.** This is an example of a cause and effect question. We know the effect in this question is customers having to pay more money than they normally would. The only thing that could cause customers to pay more than they usually would is higher than normal prices. Because of this we know that the stores must have tried to raise or **inflate** their prices about what was normal.
- 5. The correct answer is choice (B) invincible, which means too powerful to be defeated or killed.** This is an example of a continuation or restatement question. The colon in this sentence is a big clue and tells us that the words that come after it relate very closely to whatever is before it. In this case after the colon it says unable to be hurt or defeated by anything, which is a restatement of the word **invincible**. Another hint in this sentence is at the end where it says just like his favorite superheroes because many superheroes are also **invincible**.

6. **The correct answer is choice (C) leisure, which means use of free time for relaxation and enjoyment.** This is an example of a continuation or a restatement question. Between the first part of the sentence where it says Shayna had no responsibilities and the last part where it says that she would relax by the pool everyday, we know that we are looking for a word that has a similar meaning to relaxing or having a lot of free time. This is closest to answer (C) **leisure**.
7. **The correct answer is choice (D) varied, which means having many different types.** This is an example of a continuation or restatement question. The second part of the sentence gives examples of many different types of hair products. Choices (A) and (B) both would suggest that the selection of products at the store was not very many so we can eliminate them. Choice (C) doesn't relate to the number of products the store has so we can eliminate it as well. That leaves choice (D) which makes sense because of how many different types of products the store has.
8. **The correct answer is choice (C) activist, which means a person who fights to get political or social change.** This is an example of a continuation or restatement question. The blank is describing Millicent Fawcett and the rest of the sentence goes on to talk about how she played an influential role in fighting for women's rights. Women's rights was a political and social issue and so fighting for that issue would make someone an **activist**.
9. **The correct answer is choice (A) dependent, which means requiring someone else for support.** This is an example of a cause of effect question. The cause in this question is Kenya recently starting a business and not making any profit. Profit is the money a business makes so if the business wasn't making any profit we can assume that Kenya wasn't making any money. The effect of not making any money would be that Kenya would need help from someone else to help her pay for essential things such as housing and food, in this case her parents. This would make her **dependent** on them.
10. **The correct answer is choice (B) industrial, which means relating to factories or making things in factories.** This is an example of a continuation or restatement question. The second part of the sentence says that China has the capability to mass produce almost anything in the world. In order to do this a country would have to have many factories or some other means of production. The only answer that directly relates to factories and production is **industrial**.
11. **The correct answer is choice (D) envied (the past tense of envy), which means to want what someone else has for yourself.** This is an example of a continuation or restatement question. The second part of the sentence says that Kevin hoped to one day be as successful as his boss. Hoping for something is very similar to wanting something so we could also say he wanted to be as successful as his boss. Kevin wanted something for himself that someone else (his boss) has, so he **envied** her.
12. **The correct answer is choice (D), it was in fact a sparrow.** This is an example of a contrast question. The clue in this sentence is the word "yet" in the middle of the sentence. In the first half of the sentence it says that Clifton was sure that the bird was a robin. Because of the word yet we know that what Elsie insisted is going to be in contrast to this. Choice (A) is agreeing with Clifton so it is incorrect. Choices (B) and (C) don't have anything to do with what kind of bird it is, so they are

incorrect. Choice (D) is in contrast to what type of bird Clifton thinks it is and so it is the correct answer.

- 13. The correct answer is choice (A), he had forgotten the key.** This is an example of a question that doesn't fit nicely into any of the categories. To find the answer we have to use context clues in the sentence. The word "unfortunately" tells us that the second part of the sentence is going to be something negative or upsetting to Louie. Choices (B) and (C) are not negative so we can cross them out. Choice (D) is negative but it doesn't relate to the first part of the sentence which says Louie walked to the backyard to unlock the shed. Choice (A) is negative and relates to the first part of the sentence so it is the correct answer.
- 14. The correct answer is choice (C), look online for classes to learn those skills.** This is an example of a cause and effect question. The clue in this question is the word "if" at the start of the sentence. The cause is someone being curious about how to use power tools. Being curious about something usually causes someone to learn more about that thing. So if someone was curious about how to use power tools it makes sense that that would cause them to **look online for a class to learn those skills**.
- 15. The correct answer is choice (D), walking around the woods at night.** This is an example of a cause and effect question. The clue in this question is the word "so" in the middle of the sentence. The cause in this sentence is Orval being terrified of the dark. We can assume that if he was scared of the dark that he would not want to do anything that took place in the dark. Choice (A) would be something that someone who was afraid of the dark would do so it is incorrect. Choice (B) doesn't take place in the dark so it is also incorrect. Choices (C) and (D) both take place in the dark but going to a movie theater would be less scary because you are usually surrounded by other people and also although there is not a lot of light, the screen provides some light in the darkness. **Walking around the woods at night** would be the situation with the most darkness and most likely the scariest.
- 16. The correct answer is choice (B), go for a long jog.** This is an example of a cause and effect question. The cause in this question is the fact that Maria was unaware of the impending rain. Sometimes to solve cause and effect questions it helps to think about the inverse (opposite) of the situation. If Maria had been aware of the impending rain what action would she have taken? She probably would have packed an umbrella or raincoat, or stayed inside so she wouldn't get rained on. Because she was unaware of the rain we can assume she wouldn't have stayed inside and instead went outside to do something like **go for a jog**.

Sentence Completion Practice Set 6

- 1. The correct answer is choice (D) persuade, which means convince.** This is an example of a cause and effect question. The cause in this question is Ashley really wanting a puppy. This causes her to write her parents an essay explaining the benefits of having a puppy. Because we know that Ashley really wants a puppy it wouldn't make sense for her to write an essay to threaten her parents so

choice (A) is incorrect. Similarly it wouldn't make sense for her essay to confuse her parents so choice (B) is incorrect as well. Choice (C) could make sense, but because the essay is talking about the benefits, it doesn't fit the sentence. Choice (D) makes the most sense because by explaining the benefits of owning a pet, Ashley is trying to convince or **persuade** her parents that it's a good idea.

2. **The correct answer is choice (B) impress, which means to influence someone in a positive way.** This is an example of a cause and effect question. The clue in this sentence is the word “because” in the middle of the sentence. The effect in this sentence is Cassandra had two copies of her resume and professional portfolio for her job interview. What caused her to do this was the fact that she wanted to blank the potential employer. Usually people want to do well on a job interview and have the employer feel positively about them or said another way, they want to **impress** the employer.
3. **The correct answer is choice (D) compassionate, which means feeling sympathy for others or caring about others.** This is an example of a continuation or restatement question. The sentence is describing Zachary and says he cared deeply about other people and always tried to help those in need. If someone is in need and you help them you most likely have sympathy for their situation. So the sentence is saying Zachary cared deeply for and felt sympathy for other people, which is a way of showing he is a **compassionate** person.
4. **The correct answer is choice (C) opinion, which means a belief or view held by someone.** This is an example of a cause and effect question. The clues in this sentence are the words “once he learned”. Sometimes for cause and effect questions it helps to read the cause first and try to figure out the logical effect that might follow. So in this case that would be once he learned that she was going with her friends and not a date, my husband’s on whether or not our daughter should be allowed to go to the school dance changed. Because the subject’s husband learned new information about his daughter’s company at the dance it makes sense that his view or **opinion** on whether or not she was allowed to go would change.
5. **The correct answer is choice (A) inventory, which means the amount of product a store or business has.** This is an example of a cause and effect question. The effect in this sentence is that the store owner placed a very large order for toilet paper. He did this because his supply was low and the only way he knew this was by checking his **inventory**.
6. **The correct answer is choice (A) remorse, which means guilt or regret for doing something wrong.** This is an example of a cause and effect and a continuation or restatement question. The clues in this sentence are the words “since” and “and” at the beginning and in the middle of this sentence respectively. Because this question has elements from two types of questions we can use either or both to find the answer. The cause in this question is the burglar knowing that the family was very rich. If a burglar knew that someone was very rich, they might assume that stealing from them wasn't that big of a deal because they have so much. This would cause them to not feel bad or guilty or feel **remorse** for stealing. This answer is reinforced by the last part of the sentence that says he did not feel the need to apologize. This statement helps us to eliminate choice (B) because feeling the need to apologize is more closely related to **remorse**.

7. **The correct answer is choice (B) tension, which means a state of nervousness and/or hostility.** This is an example of a cause and effect question. The clue in this question is the word “so” in the middle of the sentence. We know the effect in this sentence: many citizens were worried that a war would soon break out. If citizens were worried about a war we can assume that the cause was the relationship between the countries was not a good one and there was most likely some sort of hostility or **tension** between them.
8. **The correct answer is choice (C) contaminated, which means being infected by some sort or poisonous or harmful substance.** This is an example of a cause and effect question. The clue in this sentence is the word “after” in the middle of the sentence. The effect in this sentence is that hundreds of people in Greenville began to feel ill. Why do people usually feel ill? They are either sick or some outside influence is making them feel sick. In this case we know the cause has something to do with the town's local water supply so something must be wrong with it. Choices (A) and (B) don't make sense because they are expressing positive things. Choice (D) doesn't make sense because it doesn't really have to do with feeling sick or healthy. Choice (C) is the correct answer.
9. **The correct answer is (C) adequate, which means a sufficient amount for health or quality.** This is an example of a cause and effect question. The effect in this question is plants losing their green color and dying. What could be some reasons that a plant would fade in color and die? We know that plants need a certain amount or **adequate** water and sunlight to live, so we can assume that without it they would start to lose their color and eventually die. Choice (B) might seem to make sense also and sometimes a question will have to answer that could potentially fit. In this case we have to choose the answer that fits best. The word **adequate** specifically refers to an amount of something so in this sentence it is the best fit.
10. **The correct answer is choice (C) complicated, which means difficult to understand or explain.** This is an example of a cause and effect question. The clue in this question is the word “because” at the start of the sentence. The cause in this sentence is Sade’s grandparents coming from a generation that didn’t grow up using technology. Because they didn’t grow up with technology we can assume they are less familiar with it than someone who had it their whole life. We know that if you are less familiar with something it will probably be harder for you to understand how it works so the effect in this sentence is that setting up the new computer was difficult or **complicated**.
11. **The correct answer is choice (D) charitable, which means likely to help those in need.** This is an example of a cause and effect question. The clues in this question are the words “due to” at the beginning of the sentence. We know that Haley received an award, which is the effect, but we don't know what it was for or what caused it. If we look at the first part of the sentence we see that Haley was committed to volunteering and donating to local causes. When someone volunteers they do not get paid and are usually doing it because they want to help a person or people in need. For example, volunteering at a homeless shelter is to help people who are in need of a place to live. This would make volunteering and donating your time a **charitable** act, so choice (D) is correct.

- 12. The correct answer is choice (A), made much progress on his essay.** This is an example of a question that doesn't really fit into any of the categories nicely and is best solved using context clues. The key word in this question is "writing" in the middle of the sentence. Because the first part of the sentence is talking about Quentin writing, we know the second part should have something to do with writing as well. The only answer that is related to writing in any way is choice (A).
- 13. The correct answer is choice (D), didn't take the trash out by Sunday night.** This is an example of a question that doesn't really fit into any of the categories nicely and is best solved using context clues. The key word in this sentence is "chores" in the middle of the sentence. A chore is a routine task, usually a household one like washing the dishes or cleaning your room. Louis was grounded for failing to complete his chores so we are looking for an answer that tells us that he didn't do something he was supposed to do. The only answer that involves a chore and tells us that Louis didn't do something is choice (D).
- 14. The correct answer is choice (B), a beautiful painting of a mountain.** This is an example of a cause and effect question. The clue in this sentence is the word "after" in the middle of the sentence. The effect in this sentence is Phyllis being glad she went on the field trip to the art museum. We are looking for what caused this. We know that something must have happened on the field trip that made Phyllis feel glad. Choice (A) wouldn't necessarily make someone feel glad so we can eliminate it. Choice (C) would probably make someone unhappy so we can eliminate it as well. Choice (D) might make someone feel glad but it doesn't have anything to do with the art museum specifically so we can eliminate it. Choice (B) does relate to the art museum and would be a reason Phyllis was glad she went.
- 15. The correct answer is choice (A), catch the glass before it fell on the floor.** This is an example of a question that doesn't fit into any of the categories nicely and is best solved using context clues. The key word in this question is "swiftly" at the beginning of the sentence. Swiftly means moving at high speed or fast, so we know we are looking for an answer that involves Ines moving fast in order to do something. Choices (B), (C), and (D) don't require Ines to move fast so we can cross them out. Choice (A) however would require Ines to move very fast so it is the correct answer.
- 16. The correct answer is choice (C), buying bagels and donuts.** This is an example of a cause and effect question. The clue in this question is the word "so" in the middle of the sentence. The cause in this question is Daniel not being able to eat bread. If someone is gluten free it would make sense that they would not buy any food items that were made of or contained bread because they would not be able to use them without getting sick. The only answer that relates to buying food that contains or is made of bread is choice (C).

Sentence Completion Practice Set 7

- 1. The correct answer is choice (B) unreasonable, which means not fair or unrealistic.** This is an example of a continuation or restatement question. The clue in this question is the word "and" in the middle of the sentence. In the second half of the sentence it says that the expectations that Andre's

parents set for him were often impossible for him to live up to. If an expectation is impossible to live up to you could also say it is unrealistic or **unreasonable**.

2. **The correct answer is choice (C) resilient, which means being able to recover or adjust easily.** This is an example of a continuation or restatement question. The clue in this question is the word “and” towards the beginning of the sentence. The second part of the sentence says that Kim would always find a way to overcome any obstacle or problem she faced. In order to overcome an obstacle someone has to be creative and able to adjust to whatever the obstacle is, this is another way of saying someone is **resilient**.
3. **The correct answer is choice (D) guilty, which means responsible for committing a crime.** This is an example of a contrast question. The clue in this question is the word “although” at the start of the sentence. In this sentence the defendant is claiming he is innocent but the jury doesn’t feel the same way. Because we know the ideas in this sentence are going to contrast with each other, we are looking for an answer that is opposite of the word innocent, which is **guilty**.
4. **The correct answer is choice (A) participate, which means to take part in something.** This is an example of a contrast question. The clue in this question is the word “despite” in the middle of the sentence. The second part of the sentence tells us that Damien was scared of being the slowest runner. This would normally mean that he would not take part in the track competition, but we know that because it is a contrast question we have to choose an answer that is in contrast to what we would normally think. In this case Damien does **participate** in the track competition after his friends encouraged him.
5. **The correct answer is choice (B) insulation, which means material that is used to keep something warm.** This is an example of a continuation or restatement question. The clue in this question is the word “and” in the middle of the sentence. The second part of the sentence says the wolf’s fur coat keeps it warm during the cold winters. So we are looking for an answer that has to do with keeping something warm, which is **insulation**.
6. **The correct answer is choice (D) procrastinating, which means putting off doing a task until a later time.** This is an example of a continuation or restatement question. The clue in this question is the word “and” in the middle of the sentence. The second part of the sentence tells us that Greg would often start his assignments very early. This is the opposite of putting off doing them so we know that Greg must have hated **procrastinating**.
7. **The correct answer is choice (C) remembering, to think of or bring to mind.** This is an example of a continuation or restatement question. The clue in this question is the word “and” in the middle of the sentence. In the second half of the sentence it says that Joe’s teacher was getting frustrated with him because he was constantly late to class. One reason someone could be late for class would be that they overslept. If Joe is constantly late for class because he overslept, it makes sense that he often had a hard time **remembering** to set his alarm. Note: be careful not to choose choice (D)

because while Joe is forgetting to set his alarm the sentence says Joe is having a hard time doing something, so we are looking for something that Joe is not doing rather than what he is doing.

8. **The correct answer is choice (B) discriminatory, which means the unfair treatment of someone especially based on race, age, or gender.** This is an example of a question that doesn't really fit into any of the categories nicey and is best solved using context clues. The sentence tells us that Jennifer's salary was not equivalent to that of her male co-worker. It is important to realize her co-worker was described based on his gender, this is a hint to the correct answer. The sentence goes on to say that both Jennifer and her male co-worker had the exact same title and responsibilities. Between both of these facts it is safe to assume that the reason Jennifer's pay was less was only because she was a female employee and that would make it **discriminatory**.
9. **The correct answer is choice (A) proficient, which means the ability to do something well.** This is an example of a cause and effect question. The clue in this question is the word "because" in the middle of the sentence. The cause in this sentence is Carl living abroad in Spain for three years and practicing speaking Spanish regularly. We know that when you practice something regularly you will most likely become better at doing it. Because Carl was practicing Spanish while abroad regularly we can assume that he became **proficient**.
10. **The correct answer is choice (D) recounted, which means to tell someone about something.** This is an example of a continuation or restatement question. The second half of the sentence tells us how the newlywed told her children about her wedding day and all the details that went along with it. This continues the idea that she **recounted** her wedding day by providing examples of specifically what she told her children.
11. **The correct answer is choice (A) geography, which is the study of places and parts of the world.** This is an example of a continuation or restatement question. The second part of the sentence says that Corinne could locate every European country and capital on a map. Choice (B) doesn't have to do with where countries are so we can cross it out. Choice (C) is more about how the people behave in different countries than where the countries are located so we can cross it out. Choice (D) is about what happened in a particular place in the past and not necessarily where things are on a map so we can cross it out. That leaves choice (A).
12. **The correct answer is choice (C), ran away when Jerry brought a grasshopper over.** This is an example of a cause and effect question. The clue in this question is the word "so" in the middle of the sentence. The cause in this sentence is Santo being very scared of insects. We know choices (A) and (D) are incorrect because if someone is scared of insects they probably don't want to touch them or be around them. Choice (B) doesn't really have anything to do with insects so it is also incorrect. Choice (C) has to do with insects and illustrates what we would expect someone who is afraid of insects to do.
13. **The correct answer is choice (D), he enlisted in the military as soon as he turned 18.** This is an example of a cause and effect question. The clue in this question is the word "so" in the middle of

the sentence. The cause in this sentence is Melvin knowing he wanted to join the navy and we are looking for the effect. Choices (A) and (C) have nothing to do with joining the navy so we can cross them out. Choice (B) could possibly help him in his goal but it is not necessarily related so we can cross it out as well. Choice (D) specifically mentions the military which includes the navy so we know that it is the best answer.

- 14. The correct answer is choice (C), the herbal tea she made today was rather disgusting.** This is an example of a contrast question. The clue in this question is the word “but in the middle of the sentence. The first part of the sentence says Ike always liked the tea his sister made him. We know that because it says but that whatever comes next is going to be in contrast with the idea of Ike liking the tea his sister made. The only answer choice that is in direct contrast with that idea is choice (C) because if the tea she made today is disgusting, Ike clearly did not like it.
- 15. The correct answer is choice (B), what will be served for dessert.** This is an example of a cause and effect question. The clue in this question is the word “so” in the middle of the sentence. The cause in this sentence is the fact that it is Mary’s wedding day. Because of this she gets to decide something about the day, which is the effect. Choices (A), (C), and (D) are all things that Mary can not control (the weather, the temperature, whether people cry), so it wouldn’t make sense to say she gets to decide those things because it’s impossible. This leaves choice (B), **what will be served for dessert**, which she can decide and would make sense for a person to decide on their wedding day.
- 16. The correct answer is choice (D), keep working for three more weeks.** This is an example of a contrast question. The clue in this question is the word “although” at the beginning of the sentence. The first part of the sentence says that Andrea’s company had already hired her replacement. Normally we would think if a company has hired a replacement for you they would have no reason for you to keep working there. We know that the answer is going to be in contrast with what we would normally think so choices (A) and (B) are incorrect because they are normal things that would happen in this situation. Choice (C) could possibly happen but it doesn't make sense in this sentence. Choice (D) is in contrast to what we would think would happen so it is the correct answer.

Sentence Completion Practice Set 8

- 1. The correct answer is choice (C) dependent, which means determined by or reliant on something else.** This is an example of a contrast question. The clue in this question is the word “while” in the middle of the sentence. This sentence is contrasting two types of animals that live in Antarctica and how they get their food in the winter. The second group of animals gets their food by migrating to other regions during the winter. We know that the other group must get food a different way or else the sentence wouldn't have separated them into groups in the first place. The first group is reliant or **dependent** on the sea. This makes sense because it is different from the second group and it describes how the first group gets its food.
- 2. The correct answer is choice (A) instincts, which means a natural way of acting without thinking.** This is an example of a question that doesn’t fit into any of the categories nicely and is

best solved with context clues. The key idea in this sentence is that Tom made a decision with very little time to think. We know this because it says the minute he saw the kitchen go up in flames he grabbed his dog and ran for the door. This makes sense if you think about it because if your kitchen is on fire you don't have time to think about what to do, you just have to rely on your **instincts** to make a decision.

3. **The correct answer is choice (B) intermediate, which means coming between beginner and advanced.** This is an example of a continuation or restatement question. The sentence tells us that Chance was able to skip the beginner tennis course based on his skill level. It also tells us that he could not participate in the advanced tournament. This means that Chance's skill at tennis was somewhere in between beginner and advanced, or **intermediate**.
4. **The correct answer is choice (A) revoke, which means to take away something that was previously given.** This is an example of a cause and effect question. The cause in this question is the girl getting caught making offensive comments on social media. This is not a good thing so we can assume that the effect will also not be a good thing. Choices (C) and (D) are both positive things so we can cross them out. Choice (B) is negative but it doesn't make sense in the context of the sentence because you can't punish an acceptance. Choice (A) is negative and it fits with the sentence.
5. **The correct answer is choice (B) uneasy, which means nervous or unsettled.** This is an example of a cause and effect question. The clue in this question is the word "since" at the start of the sentence. The cause in this question is the fact that it was Deidra's first time flying and she was very scared of heights. If we think about how being afraid of heights and being on a plane, which goes very high in the air, for the first time would make someone feel, we can assume it probably wouldn't be a positive feeling. Choices (A) and (C) are both positive emotions so we can cross them out. Choice (D) is negative but it doesn't really fit with the sentence. Most people would feel nervous, scared or **uneasy** in this situation.
6. **The correct answer is choice (D) unanimous, which means everyone in agreement.** This is an example of a continuation or restatement question. The sentence is talking about a new rule being created for a club and in order for that to happen everyone in the club had to be in agreement. That is a restatement of the word **unanimous**.
7. **The correct answer is choice (D) lingered, which means slow to disappear.** This is an example of a contrast question. The clues in this question are the words "even though" at the beginning of the sentence. The first part of the sentence tells us that someone had opened all of their windows and sprayed perfume in their apartment. The sentence also mentions a horrible stench so we can assume they opened the windows and sprayed perfume in an effort to get rid of the smell. Because this is a contrast question we are looking for an answer that is in contrast to what we think would normally happen. If you open all the windows and spray perfume you would think that a bad smell would disappear, but in this case it did not disappear and instead **lingered**.

8. **The correct answer is choice (A) elated, which means extremely happy.** This is an example of a cause and effect question. The cause in this question is Kayla having dreamt about her wedding day since she was a little girl. This implies that she was excited about one day getting married. The second part of the sentence says that Kayla heard that Chauncey might propose to her this weekend. If someone is excited about something happening and they find out that it might happen soon, it makes sense for them to be happy or **elated**.
9. **The correct answer is choice (C) manipulate, which means to change or control something for a specific purpose.** This is an example of a continuation or restatement question. The clue in this sentence is the word “and” in the middle of the sentence. The sentence says when scientists conduct experiments they must make small changes and blank certain variables. They do this in order to see if the changes they made will have an effect on what they are observing. The theme of the sentence is scientists having to make changes to an experiment so **manipulate** is the correct answer because it fits with and continues the theme of the sentence.
10. **The correct answer is choice (B) paraphrase, which means use different words to express the same meaning.** This is an example of a cause and effect question. The clue in this sentence is the word “if” at the start of the sentence. The cause in this question is someone choosing to use content from an article without direct quotes. We know that when you use someone else's exact words you have to put it in quotation marks so that the reader knows that they are quoting someone else. If you don't use quotes you would be plagiarizing unless you rewrite the ideas using different words. So the effect of choosing to use content from an article without direct quotes is having to **paraphrase**.
11. **The correct answer is choice (C) outlook, which means point of view.** This is an example of a cause and effect question. The sentence says that Daniel suffered from depression for years but something changed after he met his fiance. Meeting his fiance was the cause of this change, and something becoming more positive was the effect. Choices (A) and (B) don't make sense because they can't become more positive so we can eliminate them. Choice (D) doesn't make sense because a hypothesis is an educated guess so you wouldn't really describe a hypothesis as positive or negative either, so we can eliminate it as well. If someone was depressed however and then something happy happened like meeting their fiance, their point of view or **outlook** would most likely change and become more positive.
12. **The correct answer is choice (C), decided to play the electric guitar.** This is an example of a contrast question. The clue in this sentence is the word “but” in the middle of the sentence. The first part of the sentence says that Caroline typically plays the bass guitar during concerts. Because this is a contrast question we know that the second part of the sentence will be in contrast to the first. Playing the electric guitar instead of the bass guitar shows a contrast so choice (C) is correct.
13. **The correct answer is choice (D), she is too sick right now.** This is an example of a contrast question. The clue in this sentence is the word “but” in the middle of the sentence. The first part of the sentence says Ben wished his grandma would come visit him. Because this is a contrast question we know we are looking for an answer that would cause that not to happen. Choices (A) and (C),

would be reasons why Ben’s grandma would want to visit so we can cross them out. Choice (B) wouldn’t affect her decision either way so we can cross it out as well. Choice (D) is a reason that his grandma would not be able to visit so it is the correct answer.

- 14. The correct answer is choice (A), the jet engine was still very loud.** This is an example of a cause and effect question. The clues in this question are the words “even with” at the start of the sentence. The sentence tells us that Kirk was wearing earplugs. Normally earplugs make noises seem quiet, so we are looking for an answer that is in contrast with this idea. The only answer that is in contrast with noises being quiet is choice (A).
- 15. The correct answer is choice (B), she wasn’t in the mood to celebrate.** This is an example of a contrast question. Usually when people throw you a surprise party you are excited and happy to celebrate. We know we are looking for an answer that will contrast this idea of being excited to celebrate so Dianna not being in the mood to celebrate is the correct answer. Choices (A) and (C) support the idea of being happy and excited about a party and choice (D) doesn’t relate to a party at all.
- 16. The correct answer is choice (A), carry an umbrella in your car.** This is an example of a cause and effect question. The cause in this question is the fact that it hardly ever rains in Phoenix. Because of this we would assume that if you lived there you wouldn’t need to have or use things that protect you from the rain like an umbrella. Choices (B), (C), and (D) are all things that it probably is necessary to do in a place that doesn't get a lot of rain.

Sentence Completion Practice Set 9

- 1. The correct answer is choice (A) origins, which means the place where something began or started.** This is an example of a continuation or restatement question. The second part of the sentence says some people argue soccer was created as far back as 2500 B.C. so we know we are looking for an answer that has to do with the creation or start of soccer and **origin** is another way to say that.
- 2. The correct answer is choice (D) decorative, which means used for making something look more attractive and not necessarily serving any other function.** This is an example of a contrast and a continuation or restatement question. The clue in this sentence is the word “but” in the middle of the sentence. The first part of the sentence says footwear is worn to protect the feet. This is a functional purpose as the sentence is claiming people wear shoes for the function of protecting their feet. The sentence then contrasts footwear with jewelry so we can assume that jewelry is not functional and instead it is **decorative**. In addition the sentence goes on to say jewelry serves no practical purpose as a part of an outfit, which is another way to say **decorative**.
- 3. The correct answer is choice (D) makeshift, which means a temporary substitute.** This is an example of a cause and effect and a continuation or restatement question. The clue in this sentence is the word “since” at the start of the sentence. The cause in this sentence is the rain preventing the

boys from playing in their tree fort. The effect of this is that they used cushions from the couch and bed sheets to create a fort they could use until the rain stopped. Because the sentence says they would use the fort made out of cushions and bed sheets until the rain stopped, this tells us the fort is a temporary substitute or **makeshift**.

4. **The correct answer is choice (B) mere, which means the smallest or slightest.** This is an example of a contrast question. The clue in this question is the word “although” at the beginning of the sentence. The first part of the sentence says that Dennis was expected to win the election in a landslide. Because this is a contrast question we know that we are looking for an answer that wouldn’t be what we would normally think. Normally if something is expected it is close to what happens. In this case Dennis didn’t end up winning by a landslide but instead a small or **mere** 20 votes.
5. **The correct answer is choice (C) medley, which means a varied mixture of people or things.** This is an example of a cause and effect question. The clue in this question is the word “because” in the middle of the sentence. The effect in this sentence is Clarence preferring to eat trail mix over potato chips. He preferred this because of some characteristic of trail mix that was different from potato chips. The sentence says he liked the different nuts, dried fruit, and chocolate which would suggest he liked the mixture of different ingredients or **medley**.
6. **The correct answer is choice (C) optimistic, which means hopeful and confident about the future.** This is an example of a contrast question. The clues in this sentence are the words “even though” at the beginning of the sentence. The first part of the sentence says that the family had lost their house to the fire. Normally if a family lost their house they would be upset and frustrated and have a pessimistic view. Because this is a contrast question we know we are looking for an answer that would be different than what we would normally think, so the family might be hopeful or **optimistic** in spite of a bad thing happening to them.
7. **The correct answer is choice (B) plummet, which means to fall or decline.** This is an example of a cause and effect question. The clue in this question is the word “because” in the middle of the sentence. The cause in this sentence is that a lot of people have been hunting deer. We know that when too many people hunt an animal they kill them and there are less of them in the wild so their numbers begin to go down or **plummet**.
8. **The correct answer is choice (D) precise, which means accurate or careful about details.** This is an example of a continuation or restatement question. The second part of the sentence says that the mother counts out exactly 100 chocolate chips to bake into each loaf of banana bread. This is a very specific number and requires someone to pay close attention and be accurate or **precise**.
9. **The correct answer is choice (A) manufactured, which means produced or made.** This is an example of a cause and effect question. The clue in this sentence is the word “because” in the middle of the sentence. The cause in this question is the production costs being less expensive in other countries, which means their products can be made for less money overseas. We know that

companies are always trying to lower their costs so if something could be produced or **manufactured** overseas for less money we would expect them to do it.

- 10. The correct answer is choice (C) majority, which means more than half or a large percentage of something.** This is an example of a cause and effect question. The clue in this question is the word “since” at the start of the question. The cause in this question is the acceptance rate at Harvard being 5% which is very low. With such a low acceptance rate we know that only a small number of applicants will be accepted, which means that a large percentage or **majority** of applicants will be rejected.
- 11. The correct answer is choice (B) charismatic, which means having a charming or attractive personality.** This is an example of a cause and effect and a continuation or restatement question. The effect in this sentence is Clara being an attractive person to be around. The cause of this is her welcoming smile and blank personality. The first part of the sentence says that Clara had no problem making new friends. Between that and the fact that we know she is an attractive person to be around, we can assume that the cause is her **charismatic** personality. Choice (A) wouldn’t necessarily make you an attractive person to be around so we can cross it out. Choices (C) and (D) would both make you a less attractive person so be around so we can cross them out as well.
- 12. The correct answer is choice (A), went out to eat with his friends.** This is an example of a contrast problem. The clue in this sentence is the word “despite” at the beginning of the sentence. The first part of the sentence says that Luz had a lot of work to get finished yesterday. Normally this would mean that someone would choose to work hard to get it done. Because this is a contrast question we are looking for an answer that is not what we would normally think. Choices (B), (C), and (D) are all normal reactions to having a lot of work. Going out to eat with friends is not a usual reaction so choice (A) is correct.
- 13. The correct answer is choice (A), she was very nervous.** This is an example of a cause and effect question. The clue in this question is the word “so” in the middle of the sentence. The cause in this sentence is the fact that it had been a while since Melissa had sung in front of people. If you do something all the time you usually start to feel comfortable doing it. Because Melissa had not sung on stage for a while we are looking for an answer that says the opposite of being comfortable or uncomfortable. This is the same as being nervous.
- 14. The correct answer is choice (C), that superstitions are not real.** This is an example of a contrast question. The clue in this question is the word “while” in the middle of the sentence. This sentence is contrasting two types of people. The first type of person believes that black cats are bad luck. Because there is no proof of this being true, believing in it is just a superstition. So because we are looking for an answer that would be different from believing in superstitions, choice (C) is the correct answer.
- 15. The correct answer is choice (D), The Examiner put one of his poems in their publication.** This is an example of a cause and effect question. The clue in this question is the word “because” in the

middle of the sentence. The first part of the sentence says before he knew it, Kurtis was a published poet. That is the effect in this sentence. We know that being a published author just means that some magazine or book or website has published something you have written so answer choice (D) is correct. None of the other answer choices give any reason to why Kurtis was a published poet.

16. The correct answer is choice (B), bring her to a dentist. This is an example of a cause and effect question. The clue in this question is the word “so” in the middle of the sentence. The cause in this sentence is Frieda complaining of a toothache for a week. If you have an injury to your body you would usually go to a doctor and in the same way if you have a toothache you would usually go to a dentist, so choice (B) is the correct answer. Choices (A) and (C) would be the opposite of what you would want to do with a toothache so they are incorrect. Choice (D) doesn’t make sense because the sentence already told us her tooth still hurts.

Sentence Completion Practice Set 10

- 1. The correct answer is choice (D) accommodate, which means provide enough space for or fit.** This is an example of a cause and effect question. The clue in this question is the word “if” at the start of the sentence. In this sentence we know the effect is this person having to rent a larger home for their family vacation. If we think about it, the only reason that someone would have to rent a larger home would be because the one they are currently in or looking at isn’t big enough to fit or **accommodate** their family or belongings.
- 2. The correct answer is choice (A) stern, which means strict or severe.** This is an example of a cause and effect question. The clue in this question is the word “so” in the middle of the sentence. The effect in this sentence is Kevin’s wife asking him to speak in a softer, calmer voice. This implies that he was not speaking in a soft calm voice before she asked him and instead was speaking with an intense, strict or **stern** tone.
- 3. The correct answer is choice (D) jumbled, which means to mix up in a confused way.** This is an example of a continuation or restatement question. The first part of the sentence says that during her speech Jenna’s nerves took over. This implies that she was a little scared to be giving the speech. The second part of the sentence says she forgot what to say. If you are a bit scared or nervous during a speech and you forget what to say it makes sense that you would mix up or **jumble** your words. Choice (A) would make sense if the sentence didn’t say Jenna was nervous but instead that she was confident even though she forgot the words.
- 4. The correct answer is choice (A) illegible, which means not clear enough to be read.** This is an example of a cause and effect question. The clue in this sentence is the word “when” at the beginning of the sentence. The cause in this sentence is Chloe spilling her tea all over her research paper. This causes the ink on the paper to bleed. If we think about how ink looks when it gets wet and starts to bleed we know that it can be very hard to read or sometimes even **illegible**. Choice (B) is the opposite of what happens when ink gets wet so we can eliminate it as an answer. Choices (C) and (D) do not make sense in the sentence so we can eliminate them as well.

5. **The correct answer is choice (B) specious, which means big or roomy.** This is an example of a cause and effect question. The clue in this question is the word “so” in the middle of the sentence. The effect in this sentence is Trina being excited to purchase new furniture to fill the space. If someone moves into a new apartment and buys new furniture it can either be because they got rid of their old furniture or they need more because their new apartment has more room. We know from the sentence that Trina is buying new furniture to fill space so we can assume that her new apartment is more roomy or **spacious**.
6. **The correct answer is choice (C) imagery, which means visually descriptive language.** This is an example of a continuation or restatement question. The blank we are looking for is a word that would help a reader create a visual representation of what they were reading. Choices (A) and (D) don’t have to do with pictures of images so we can cross them out. Choice (B) had more to do with symbols specifically than creating images. Choice (C) is the best answer because it is specifically related to visual representation.
7. **The correct answer is choice (C) significant, which means a large amount.** This is an example of a cause and effect question. The clues in this question are the words “due to” at the beginning of the sentence. The effect in this sentence is Kara’s therapist suggesting that she keep a journal to write down her feelings so she can reflect on her difficult past. Knowing that Kara’s past was difficult leads us to assume that it probably included a lot of or a **significant** amount of trauma.
8. **The correct answer is choice (B) vacate, which means to leave.** This is an example of a cause and effect question. The clue in this question is the word “since” at the start of the sentence. The cause in this sentence is the couple not paying their rent for three months. We know that paying rent is required to live in an apartment and if you stop paying it would make sense that your landlord would most likely ask you to leave or **vacate** the space.
9. **The correct answer is choice (C) suspected, which means had an idea about something without actually knowing the truth.** This is an example of a contrast question. The clue in this question is the word “although” at the start of the sentence. The sentence says that the boy in the sentence was not sure who stole his bike. Because he didn’t know, we can cross off answer choices (B) and (D). The second part of the sentence says a boy named Carl had been bullying the boy in the sentence. If someone is bullying you they are picking on you and generally not being nice to you. You wouldn’t doubt this type of person might steal your bike, so we can cross off answer choice (A). It would make sense if the boy in the sentence thought or **suspected** a bully to also have stolen his bike.
10. **The correct answer is choice (A) wane, which means decrease.** This is an example of a cause and effect question and a continuation question. The clues in this sentence are the words “if” and “and” at the beginning and in the middle of the sentence respectively. The cause in this question is the subject mother not winning a game. This has some effect on her interest in the game. We are not sure what the effect is, but if we look at the second part of the sentence, it says she will usually quit

before the game is finished. Someone wouldn't quit a game if they were still interested in it, so we know that her interest must begin to decrease or **wane** if she is not winning.

- 11. The correct answer is choice (D) offended, which means hurt by or upset by something.** This is an example of a cause and effect question. The clue in this question is the word “because” at the beginning of the sentence. The cause in this sentence is the musician not having a good sense of humor. The sentence goes on to say that someone made a parody of his song. A parody is an imitation of something with exaggeration for a comic effect. If someone has a good sense of humor it means they can find something funny about a lot of situations. Even if someone makes fun of them they can usually laugh because they can see the humor in the joke. So we can assume that if someone does not have a good sense of humor they would not be able to laugh at a joke about them and instead be upset by it or **offended**.
- 12. The correct answer is choice (D), had to rewrite parts of her assignment.** This is an example of a cause and effect question. The clues in this question are the words “and thus” in the middle of the sentence. The cause in this sentence is Francine forgot to save her essay before turning off her computer. We know that you save things on a computer so that they will still be there when we turn the computer off and back on. If someone didn't save something they were writing we can assume that it would not be there if they turned off the computer and turned it back on so they would have to rewrite the parts that they forgot to save.
- 13. The correct answer is choice (C), arrived home at 10:45 to avoid getting into trouble.** This is an example of a cause and effect and a continuation or restatement question. The clue in this sentence is the word “so” in the middle of the sentence. The cause in this sentence is Antonio's parents asking him to be home by 11 PM. We know from the first part of the sentence that Antonio always listened to his parents so we can assume that that idea will continue. In order for Antonio to continue listening to his parents he would have to be home at or before 11 PM and choice (C) is the only answer that accomplishes that.
- 14. The correct answer is choice (B), take a few for myself.** This is an example of a contrast question. The clue in this sentence is the word “although” at the beginning of the sentence. The first half of the sentence says that the sign said to take only one sample. Usually people follow rules and if a sign says only take one sample they would only take one sample. Because this is a contrast question we know we are looking for an answer that would not be what we would expect, so someone taking a few or more than one sample is the correct answer.
- 15. The correct answer is choice (C), ended up being 30 minutes late.** This is an example of a contrast question. The clue in this question is the word “but” in the middle of the sentence. The first part of the sentence says Emerson had every intention of arriving to the party on time so we would expect that he would have done so. Being a contrast question we know that something else must have happened and the only answer that tells us Emerson was not on time is choice (C).

16. The correct answer is choice (A), the good times she had spent there. This is an example of a continuation or restatement question. The first part of the sentence says that Darcy reluctantly handed over the keys to her old apartment, which means she was hesitant about doing it. We can assume that she must have liked living in her old apartment because if she didn't she would have been happy to move out and would not have been hesitant. Answer choice (A) speaks of the good times she had in the apartment which would fit with the idea of her having enjoyed living there. Answer choices (B), (C), and (D) don't have anything to do with her old apartment so we know those are not the correct answers.

Math Multiple-Choice Chapter Answer Explanations

Fundamentals Practice Set 1

- 1. The correct answer is (C).** When adding whole numbers, stack the numbers on top of each other and line up the digits. To see a step-by-step solution of this problem, follow this link and type in the problem: [how to add large numbers](#)
- 2. The correct answer is (D).** When performing long division, place the first number underneath the division box and the second number outside of the division box. To see a step-by-step solution of this problem, follow this link and type in the problem: [how to perform long division](#)
- 3. The correct answer is (A).** When adding whole numbers, stack the numbers on top of each other and line up the digits. To see a step-by-step solution of this problem, follow this link and type in the problem: [how to add large numbers](#)
- 4. The correct answer is (B).** When multiplying two numbers, stack the numbers on top of each other and line up the digits. To see a step-by-step solution of this problem, follow this link and type in the problem: [how to multiply large numbers](#)
- 5. The correct answer is (B).** When subtracting large numbers, stack the numbers on top of each other and line up the digits. To see a step-by-step solution of this problem, follow this link and type in the problem: [how to subtract large numbers](#)
- 6. The correct answer is (D).** When performing long division, place the first number underneath the division box and the second number outside of the division box. To see a step-by-step solution of this problem, follow this link and type in the problem: [how to perform long division](#)
- 7. The correct answer is (C).** When multiplying two numbers, stack the numbers on top of each other and line up the digits. To see a step-by-step solution of this problem, follow this link and type in the problem: [how to multiply large numbers](#)
- 8. The correct answer is (B).** When subtracting large numbers, stack the numbers on top of each other and line up the digits. To see a step-by-step solution of this problem, follow this link and type in the problem: [how to subtract large numbers](#)
- 9. The correct answer is (A).** When multiplying two numbers, stack the numbers on top of each other and line up the digits. To see a step-by-step solution of this problem, follow this link and type in the problem: [how to multiply large numbers](#)

10. **The correct answer is (B).** When performing long division, place the first number underneath the division box and the second number outside of the division box. To see a step-by-step solution of this problem, follow this link and type in the problem: [how to perform long division](#)

Fundamentals Practice Set 2

1. **The correct answer is (C).** When subtracting large numbers, stack the numbers on top of each other and line up the digits. To see a step-by-step solution of this problem, follow this link and type in the problem: [how to subtract large numbers](#)
2. **The correct answer is (C).** When adding whole numbers, stack the numbers on top of each other and line up the digits. To see a step-by-step solution of this problem, follow this link and type in the problem: [how to add large numbers](#)
3. **The correct answer is (A).** When performing long division, place the first number underneath the division box and the second number outside of the division box. To see a step-by-step solution of this problem, follow this link and type in the problem: [how to perform long division](#)
4. **The correct answer is (B).** When adding whole numbers, stack the numbers on top of each other and line up the digits. To see a step-by-step solution of this problem, follow this link and type in the problem: [how to add large numbers](#)
5. **The correct answer is (D).** When adding whole numbers, stack the numbers on top of each other and line up the digits. To see a step-by-step solution of this problem, follow this link and type in the problem: [how to add large numbers](#)
6. **The correct answer is (C).** When performing long division, place the first number underneath the division box and the second number outside of the division box. To see a step-by-step solution of this problem, follow this link and type in the problem: [how to perform long division](#)
7. **The correct answer is (D).** When multiplying two numbers, stack the numbers on top of each other and line up the digits. To see a step-by-step solution of this problem, follow this link and type in the problem: [how to multiply large numbers](#)
8. **The correct answer is (A).** When subtracting large numbers, stack the numbers on top of each other and line up the digits. To see a step-by-step solution of this problem, follow this link and type in the problem: [how to subtract large numbers](#)
9. **The correct answer is (C).** When multiplying two numbers, stack the numbers on top of each other and line up the digits. To see a step-by-step solution of this problem, follow this link and type in the problem: [how to multiply large numbers](#)

- 10. The correct answer is (B).** When performing long division, place the first number underneath the division box and the second number outside of the division box. To see a step-by-step solution of this problem, follow this link and type in the problem: [how to perform long division](#)
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Writing Numbers as Words Practice Set 1

- 1. The correct answer is (A).** To write “four hundred ten” in standard form, we have “four hundred” which is written as 400, plus “ten” which is written as 10. $400 + 10$ equals 410.
- 2. The correct answer is (B).** To write “three thousand fifty-seven” in standard form, we have “three thousand” which is written as 3000, plus “fifty-seven” which is written as 57. $3000 + 57$ equals 3057
- 3. The correct answer is (D).** To write “ninety-one thousand five hundred six” in standard form, we have “ninety-one thousand” which is written as 91,000, plus “five hundred” which is written as 500, plus “six” which is written as 6. $91,000 + 500 + 6$ equals 91,506
- 4. The correct answer is (B).** To write “two hundred eighty thousand fifty-seven” in standard form, we have “two hundred eighty thousand” which is written as 280,000, plus “fifty-seven” which is written as 57. $280,000 + 57$ equals 280,057.
- 5. The correct answer is (C).** To write “eleven thousand three hundred ninety-four” in standard form, we have “eleven thousand” which is written as 11,000, plus “three hundred” which is written as 300, plus “ninety-four” which is written as 94. $11,000 + 300 + 94$ equals 11,394.
- 6. The correct answer is (C).** To write “nine and one tenth” in standard form, we have “nine” which is written as 9, plus “one tenth” which is written as 0.1. $9 + 0.1$ equals 9.1.
- 7. The correct answer is (D).** To write “nineteen thousandths” in standard form, we have “nineteen thousandths” which is written as .019.
- 8. The correct answer is (B).** To write “eighteen and five hundredths” in standard form, we have “eighteen” which is written as 18, plus “five hundredths” which is written as .05. $18 + .05$ equals 18.05.
- 9. The correct answer is (A).** To write “twenty-seven and six thousandths” in standard form, we have “twenty-seven” which is written as 27, plus “six thousandths” which is written as .006. $27 + .006$ equals 27.006.
- 10. The correct answer is (C).** To write “five hundred and seventy-nine hundredths” in standard form, we have “five hundred” which is written as 500, plus “seventy-nine hundredths” which is written as .79. $500 + .79$ equals 500.79

Writing Numbers as Words Practice Set 2

- 1. The correct answer is (B).** To write “fifty-four thousand twenty-one” in standard form, we have “fifty-four thousand” which is written as 54,000, plus “twenty-one” which is written as 21. $54,000 + 21$ equals 54,021.
 - 2. The correct answer is (B).** To write “seven thousand four hundred eighty-seven” in standard form, we have “seven thousand” which is written as 7,000, plus “four hundred” which is written as 400, plus “eighty-seven” which is written as 87. $7,000 + 400 + 87$ equals 7,487.
 - 3. The correct answer is (A).** To write “nine hundred seven” in standard form, we have “nine hundred” which is written as 900, plus “seven” which is written as 7. $900 + 7$ equals 907.
 - 4. The correct answer is (C).** To write “eight thousand thirty-two” in standard form, we have “eight thousand” which is written as 8,000, plus “thirty-two” which is written as 32. $8,000 + 32$ equals 8,032.
 - 5. The correct answer is (D).** To write “six hundred thousand seven hundred two” in standard form, we have “six hundred thousand” which is written as 600,000, plus “seven hundred” which is written as 700, plus “two” which is written as 2. $600,000 + 700 + 2$ equals 600,702.
 - 6. The correct answer is (C).** To write “six and three tenths” in standard form, we have “six” which is written as 6, plus “three tenths” which is written as .3. $6 + .3$ equals 6.3.
 - 7. The correct answer is (B).** To write “seventy-two and nine hundredths” in standard form, we have “seventy-two” which is written as 72, plus “nine hundredths” which is written as .09. $72 + .09$ equals 72.09.
 - 8. The correct answer is (A).** To write “fifty-seven thousandths” in standard form, we have “fifty-seven thousandths” which is written as .057.
 - 9. The correct answer is (D).** To write “five and eleven thousandths” in standard form, we have “five” which is written as 5, plus “eleven thousandths” which is written as .011. $5 + .011$ equals 5.011.
 - 10. The correct answer is (C).** To write “forty and thirty-six hundredths” in standard form, we have “forty” which is written as 40, plus “thirty-six hundredths” which is written as .36. $40 + .36$ equals 40.36.
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Place Value Practice Set 1

- 1. The correct answer is (D).** The 4 is four places to the left of the decimal. This is the thousands place, so it represents “four thousand” or 4,000.
- 2. The correct answer is (D).** The thousandths place is the third place to the right of the decimal, in this case the number 8.
- 3. The correct answer is (B).** The hundreds place is the third place to the left of the decimal, in this case the number 3.
- 4. The correct answer is (C).** The 2 is two places to the right of the decimal. This is the hundredths place so it represents “2 hundredths”, or $2/100$.
- 5. The correct answer is (C).** The 7 is six places to the left of the decimal. This is the hundred thousands place, so it represents “seven hundred thousand”, or 700,000.
- 6. The correct answer is (D).** The tenths place is the first place to the right of the decimal, in this case the number 9.
- 7. The correct answer is (C).** The 1 is two places to the left of the decimal. This is the tens place, so it represents “ten”, or 10.
- 8. The correct answer is (C).** The 1 is four places to the right of the decimal. This is the ten thousandths place, so it represents “one ten thousandth”, or $1/10,000$.
- 9. The correct answer is (B).** The ones place is the first place to the left of the decimal, in this case the number 6.
- 10. The correct answer is (A).** The hundredths place is the second place to the right of the decimal, in this case the number 2.

Place Value Practice Set 2

- 1. The correct answer is (A).** The thousands place is the fourth place to the left of the decimal, in this case the number 2.
- 2. The correct answer is (C).** The 3 is three places to the right of the decimal. This is the thousandths place, so it represents “three thousandths”, or $3/1,000$.
- 3. The correct answer is (A).** The tens place is the second place to the left of the decimal, in this case the number 0.

- The correct answer is (C).** The 1 is four places to the left of the decimal. This is the thousands place, so it represents “one thousand”, or 1,000.
 - The correct answer is (B).** The ten-thousandths place is the fourth place to the right of the decimal, in this case the number 7.
 - The correct answer is (A).** The ten thousands place is the fifth place to the left of the decimal, in this case the number 2.
 - The correct answer is (C).** The 9 is one place to the right of the decimal. This is the tenths place, so it represents “nine tenths”, or $9/10$.
 - The correct answer is (D).** The hundredths place is the second place to the right of the decimal, in this case the number 9.
 - The correct answer is (B).** The 6 is one place to the left of the decimal. This is the ones place, so it represents “six”, or 6.
 - The correct answer is (D).** The thousandths place is the third place to the right of the decimal, in this case the number 5.
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Divisibility and Remainders Practice Set 1

- The correct answer is (B).** If you divide 30 by 8, you get 3 with a remainder of 6 because 8 times 3 equals 24, and there are 6 leftover when you subtract 24 from 30.
- The correct answer is (D).** 690 is divisible by 3 because the sum of the digits, $6 + 9 + 0$, equals 15 which is divisible by 3.
- The correct answer is (D).** If you divide 83 by 9, you get 9 with a remainder of 2 because 9 times 9 equals 81, and there are 2 leftover when you subtract 81 from 83.
- The correct answer is (D).** We are looking for which answer choice does NOT have a remainder of 4 when divided by 5. If you divide 136 by 5, you get 27 with a remainder of 1 because 5 times 27 equals 135, and there is 1 leftover when you subtract 135 from 136.
- The correct answer is (C).** If you divide 153 by 6, you get 25 with a remainder of 3 because 6 times 25 is 150, and there are 3 leftover when you subtract 150 from 153. IMPORTANT: A lot of students choose choice (A), but our remainder cannot be equal to or greater than your divisor.

- 6. The correct answer is (A).** We are looking for the answer choice which could NOT be the number. All multiples of 7 can be divided by 7 without a remainder. 70, 84, and 98 are all multiples of 7. 7×10 equals 70, 7×12 equals 84 and 7×14 equals 98, so the only choice that is not a multiple is 69.
- 7. The correct answer is (B).** 80 is divisible by 2 because it is an even number. 80 is divisible by 5 because it ends in a 0.
- 8. The correct answer is (C).** If a number can be divided without a remainder by two different numbers, it can also be divided without a remainder by those numbers least common multiple. In this case the least common multiple of 4 and 5 is 20.
- 9. The correct answer is (D).** We are looking for the answer choice which could NOT be the number. 45,801 is not divisible by 2 because it is not even.
- 10. The correct answer is (D).** If a number can be divided without a remainder by two different numbers, it can also be divided without a remainder by those numbers least common multiple. In this case the least common multiple of 3 and 7 is 21.

Divisibility and Remainders Practice Set 2

- 1. The correct answer is (A).** If you divide 341 by 2, you get 170 with a remainder of 1 because 2 times 170 equals 340, and there is 1 leftover when you subtract 340 from 341.
- 2. The correct answer is (D).** If you divide 83 by 4, you get 20 with a remainder of 3 because 4 times 20 equals 80, and there are 3 leftover when you subtract 80 from 83.
- 3. The correct answer is (D).** 945 is divisible by 9 because the sum of the digits, $9 + 4 + 5$, equals 18 which is divisible by 9.
- 4. The correct answer is (B).** We are looking for the answer choice which could NOT be divisible by 3 and 10. 430 is NOT divisible by 3 because the sum of the digits, $4 + 3 + 0$, equals 7 which is not divisible by 3.
- 5. The correct answer is (D).** If a number can be divided without a remainder by two different numbers, it can also be divided without a remainder by those numbers least common multiple. In this case the least common multiple of 5 and 7 is 35.
- 6. The correct answer is (D).** If you divide 57 by 7, you get 8 with a remainder of 1 because 7 times 8 equals 56, and there is 1 leftover when you subtract 56 from 57.
- 7. The correct answer is (C).** We are looking for which answer choice does NOT have a remainder of 2 when divided by 8. If you divide 46 by 8 you get 5 with a remainder of 6 because 8 times 5 equals 40, and there are 6 leftover when 40 is subtracted from 46.

8. **The correct answer is (A).** If a number can be divided without a remainder by two different numbers, it can also be divided without a remainder by those numbers least common multiple. In this case the least common multiple of 6 and 6 is 24
9. **The correct answer is (A).** 246 can be divided by 6 because it is even (so it is divisible by 2) and the sum of the digits, $2 + 4 + 6$, equals 12 which is divisible by 3 (so it is divisible by 3).
10. **The correct answer is (C).** If you divide 61 by 4, you get 15 with a remainder of 1 because 4 times 15 equals 60, and there is 1 leftover when you subtract 60 from 61.
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Multiples and Factors Practice Set 1

1. To find the least common multiple of 4 and 6, write the first five multiples of each number and find the *smallest* multiple that they have in common. If there is no common multiple, find a few more multiples of each number until you find one in common. The first five multiples of 4 are 4, 8, 12, 16, and 20. The first five multiples of 6 are 6, 12, 18, 24, and 30. **The smallest multiple that 4 and 6 have in common is 12, so answer choice (C) is the correct answer.** A shortcut is to use the answer choices: check if each answer choice is a multiple of both 4 and 6 by seeing if 4 and 6 can each fit into the answer choice evenly. Choose the smallest answer choice that is divisible by both 4 and 6.
2. To find the greatest common factor of 12 and 18, find the factors of 12 and 18. Then find the *largest* factor that they have in common. The factors of 12 are 1, 2, 3, 4, 6, and 12. The factors of 18 are 1, 2, 3, 6, 9, and 18. **The largest factor in common is 6, so answer choice (C) is the correct answer.**
3. Factors of 24 are numbers that can multiply together to make 24. You can also think about factors as numbers that 24 is divisible by. The factors of 24 are 1, 2, 3, 4, 6, 8, 12 and 24. **Since 9 is not in our list of factors, answer choice (D) is the correct answer.**
4. To find the least common multiple of 5, 10 and 15, write the first five multiples of each number and find the *smallest* multiple that they have in common. If there is no common multiple, find a few more multiples of each number until you find one in common. The first five multiples of 5 are 5, 10, 15, 20, and 25. The first five multiples of 10 are 10, 20, 30, 40, and 50. The first five multiples of 15 are 15, 30, 45, 60, and 75. **The smallest multiple that 5, 10 and 15 have in common is 30, so answer choice (C) is the correct answer.** A shortcut is to use the answer choices: check if each answer choice is a multiple of 5, 10 and 15 by seeing if 5, 10 and 15 can each fit into the answer choice evenly. Choose the smallest answer choice that is divisible by 5, 10, and 15.
5. To find the greatest common factor of 90, 45, and 25, find the factors of each number and find the *largest* factor that they have in common. The factors of 90 are 1, 2, 3, 5, 6, 9, 10, 15, 18, 30, 45, and

90. The factors of 45 are 1, 3, 5, 9, 15, and 45. The factors of 25 are 1, 5, and 25. **The largest number in common is 5, so answer choice (A) is the correct answer.**
6. Multiples of 16 are the results of multiplying 16 by any whole numbers. For example, the first five multiples are 16, 32, 48, 64, and 80. **32 is a multiple of 16, so answer choice (D) is the correct answer.**
7. To find the least common multiple of 9, 6 and 4, write the first five multiples of each number and find the *smallest* multiple that they have in common. If there is no common multiple, find a few more multiples of each number until you find one in common. The first five multiples of 9 are 9, 18, 27, 36, and 45. The first five multiples of 6 are 6, 12, 18, 24, and 30. The first five multiples of 4 are 4, 8, 12, 16, and 20. We don't have a common multiple yet, so find the next five multiples of each number. The next five multiples of 9 are 54, 63, 72, 81, and 90. The next five multiples of 6 are 36, 42, 48, 54, and 60. The next five multiples of 4 are 24, 28, 32, 36, and 40. **The smallest multiple that 9, 6 and 4 have in common is 36, so answer choice (C) is the correct answer.** A shortcut is to use the answer choices: check if each answer choice is a multiple of 9, 6 and 4 by seeing if 9, 6 and 4 can each fit into the answer choice evenly. Choose the smallest answer choice that is divisible by 9, 6, and 4.
8. Factors of 27 are numbers that can multiply together to make 27. You can also think about factors as numbers that 27 is divisible by. The factors of 27 are 1, 3, 9 and 27. **Since 27 is a factor of 27, answer choice (C) is the correct answer.**
9. To find the greatest common factor of 14, 42, and 28, find the factors of each number and find the *largest* factor that they have in common. The factors of 14 are 1, 2, 7, and 14. The factors of 42 are 1, 2, 3, 6, 7, 14, 21 and 42. The factors of 28 are 1, 2, 4, 7, 14, and 28. **The largest number in common is 14, so answer choice (B) is the correct answer.**
10. Multiples of 12 are the results of multiplying 12 by any whole numbers. For example, the first five multiples are 12, 24, 36, 48, and 60. 6 is not a multiple of 12 because multiples cannot be smaller than the number. **Answer choice (A) is the correct answer.**

Multiples and Factors Practice Set 2

1. To find the greatest common factor of 20 and 15, find the factors of 20 and 15. Then find the *largest* factor that they have in common. The factors of 20 are 1, 2, 4, 5, 10, and 20. The factors of 15 are 1, 3, 5, and 15. **The largest factor in common is 5, so answer choice (A) is the correct answer.**
2. Factors of 50 are numbers that can multiply together to make 50. You can also think about factors as numbers that 50 is divisible by. The factors of 50 are 1, 2, 5, 10, 25, and 50. **Since 15 is not in our list of factors, answer choice (B) is the correct answer.**

3. To find the least common multiple of 12 and 8, write the first five multiples of each number and find the *smallest* multiple that they have in common. If there is no common multiple, find a few more multiples of each number until you find one in common. The first five multiples of 12 are 12, 24, 36, 48, and 60. The first five multiples of 8 are 8, 16, 24, 32, and 40. **The smallest multiples that 12 and 8 have in common is 24, so answer choice (B) is the correct answer.** A shortcut is to use the answer choices: check if each answer choice is a multiple of both 12 and 8 by seeing if 12 and 8 can each fit into the answer choice evenly. Choose the smallest answer choice that is divisible by both 12 and 8.
4. To find the least common multiple of 3, 6 and 5 write the first five multiples of each number and find the *smallest* multiple they have in common. If there is no common multiple, find a few more multiples of each number until you find one in common. The first five multiples of 3 are 3, 6, 9, 12, and 15. The first five multiples of 6 are 6, 12, 18, 24, and 30. The first five multiples of 5 are 5, 10, 15, 20, and 25. We don't have a common multiple yet, so find the next five multiples of each number. The next five multiples of 3 are 18, 21, 24, 27, and 30. The next five multiples of 6 are 36, 42, 48, 54, and 60. The next five multiples of 5 are 30, 35, 40, 45, and 50. **The smallest multiple that all three numbers have in common is 30, so answer choice (C) is the correct answer.** A shortcut is to use the answer choices: check if each answer choice is a multiple of 3, 6 and 5 by seeing if 3, 6 and 5 can each fit into the answer choice evenly. Choose the smallest answer choice that is divisible by 3, 6, and 5.
5. Multiples of 18 are the results of multiplying 18 by any whole numbers. For example, the first five multiples are 18, 36, 54, 72, and 90. 9 is not a multiple of 18 because multiples cannot be smaller than the number. **Answer choice (A) is the correct answer.**
6. To find the greatest common factor of 36, 18, and 45, find the factors of each number and find the *largest* factor that they have in common. The factors of 36 are 1, 2, 3, 4, 6, 9, 12, 18, and 36. The factors of 18 are 1, 2, 3, 6, 9, and 18. The factors of 45 are 1, 3, 5, 9, 15, and 45. **The largest number in common is 9, so answer choice (C) is the correct answer.**
7. Factors of 36 are numbers that can multiply together to make 36. You can also think about factors as numbers that 36 is divisible by. The factors of 36 are 1, 2, 3, 4, 6, 9, 12, 18, and 36. **Since 12 is a factor of 36, answer choice (B) is the correct answer.**
8. Multiples of 15 are the results of multiplying 15 by any whole numbers. For example, the first five multiples are 15, 30, 45, 60, and 75. **75 is a multiple of 15, so answer choice (D) is the correct answer.**
9. To find the greatest common factor of 22, 33, and 55, find the factors of each number and find the *largest* factor that they have in common. The factors of 22 are 1, 2, 11 and 22. The factors of 33 are 1, 3, 11, and 33. The factors of 55 are 1, 5, 11, and 55. **The largest number in common is 11, so answer choice (D) is the correct answer.**

10. To find the least common multiple of 10, 4, and 8, write the first five multiples of each number and find the *smallest* multiple that they have in common. If there is no common multiple, find a few more multiples of each number until you find one in common. The first five multiples of 10 are 10, 20, 30, 40, and 50. The first five multiples of 4 are 4, 8, 12, 16, and 20. The first five multiples of 8 are 8, 16, 24, 32, and 40. 40 is a multiple of both 10 and 8, so next check if it's also a multiple of 4. 40 is a multiple of 4 because 4 times 10 equals 40. **Since 40 is the smallest multiple all three numbers have in common, answer choice (C) is the correct answer.** A shortcut is to use the answer choices: check if each answer choice is a multiple of 10, 4 and 8 by seeing if 10, 4 and 8 can each fit into the answer choice evenly. Choose the smallest answer choice that is divisible by 10, 4 and 8.
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Prime Factorization Practice Set 1

1. Prime Factorization means finding which prime numbers multiply together to make the original number. To find the prime factorization of 12, make a factor tree for 12 and continue breaking up the factors into more branches until you are left with all prime numbers. If you do this, you get that 12 equals 2 times 2 times 3. **Answer choice (A) is the correct answer.** To see a step-by-step solution of this problem, follow this link, type in the number, and choose “Find prime factorization and factor tree”: [prime factorization calculator](#)
2. Prime Factorization means finding which prime numbers multiply together to make the original number. To find the prime factorization of 18, make a factor tree for 18 and continue breaking up the factors into more branches until you are left with all prime numbers. If you do this, you get that 18 equals 2 times 3 times 3. **Answer choice (B) is the correct answer.** To see a step-by-step solution of this problem, follow this link, type in the number, and choose “Find prime factorization and factor tree”: [prime factorization calculator](#)
3. Prime Factorization means finding which prime numbers multiply together to make the original number. To find the prime factorization of 24, make a factor tree for 24 and continue breaking up the factors into more branches until you are left with all prime numbers. If you do this, you get that 24 equals 2 times 2 times 2 times 3. **Answer choice (B) is the correct answer.** To see a step-by-step solution of this problem, follow this link, type in the number, and choose “Find prime factorization and factor tree”: [prime factorization calculator](#)
4. Prime Factorization means finding which prime numbers multiply together to make the original number. To find the prime factorization of 30, make a factor tree for 30 and continue breaking up the factors into more branches until you are left with all prime numbers. If you do this, you get that 30 equals 2 times 3 times 5. **Answer choice (C) is the correct answer.** To see a step-by-step solution of this problem, follow this link, type in the number, and choose “Find prime factorization and factor tree”: [prime factorization calculator](#)

5. Prime Factorization means finding which prime numbers multiply together to make the original number. To find the prime factorization of 40, make a factor tree for 40 and continue breaking up the factors into more branches until you are left with all prime numbers. If you do this, you get that 40 equals 2 times 2 times 2 times 5. **Answer choice (D) is the correct answer.** To see a step-by-step solution of this problem, follow this link, type in the number, and choose “Find prime factorization and factor tree”: [prime factorization calculator](#)

6. Prime Factorization means finding which prime numbers multiply together to make the original number. To find the prime factorization of 45, make a factor tree for 45 and continue breaking up the factors into more branches until you are left with all prime numbers. If you do this, you get that 45 equals 3 times 3 times 5. **Answer choice (A) is the correct answer.** To see a step-by-step solution of this problem, follow this link, type in the number, and choose “Find prime factorization and factor tree”: [prime factorization calculator](#)

7. Prime Factorization means finding which prime numbers multiply together to make the original number. To find the prime factorization of 56, make a factor tree for 56 and continue breaking up the factors into more branches until you are left with all prime numbers. If you do this, you get that 56 equals 2 times 2 times 2 times 7. **Answer choice (D) is the correct answer.** To see a step-by-step solution of this problem, follow this link, type in the number, and choose “Find prime factorization and factor tree”: [prime factorization calculator](#)

8. Prime Factorization means finding which prime numbers multiply together to make the original number. To find the prime factorization of 21, make a factor tree for 21 and continue breaking up the factors into more branches until you are left with all prime numbers. If you do this, you get that 21 equals 3 times 7. **Answer choice (A) is the correct answer.** To see a step-by-step solution of this problem, follow this link, type in the number, and choose “Find prime factorization and factor tree”: [prime factorization calculator](#)

9. Prime Factorization means finding which prime numbers multiply together to make the original number. To find the prime factorization of 60, make a factor tree for 60 and continue breaking up the factors into more branches until you are left with all prime numbers. If you do this, you get that 60 equals 2 times 2 times 3 times 5. **Answer choice (B) is the correct answer.** To see a step-by-step solution of this problem, follow this link, type in the number, and choose “Find prime factorization and factor tree”: [prime factorization calculator](#)

10. Prime Factorization means finding which prime numbers multiply together to make the original number. To find the prime factorization of 49, make a factor tree for 49 and continue breaking up the factors into more branches until you are left with all prime numbers. If you do this, you get that 49 equals 7 times 7. **Answer choice (A) is the correct answer.** To see a step-by-step solution of this problem, follow this link, type in the number, and choose “Find prime factorization and factor tree”: [prime factorization calculator](#)

Prime Factorization Practice Set 2

1. Prime Factorization means finding which prime numbers multiply together to make the original number. To find the prime factorization of 15, make a factor tree for 15 and continue breaking up the factors into more branches until you are left with all prime numbers. If you do this, you get that 15 equals 3 times 5. **Answer choice (D) is the correct answer.** To see a step-by-step solution of this problem, follow this link, type in the number, and choose “Find prime factorization and factor tree”: [prime factorization calculator](#)
2. Prime Factorization means finding which prime numbers multiply together to make the original number. To find the prime factorization of 81, make a factor tree for 81 and continue breaking up the factors into more branches until you are left with all prime numbers. If you do this, you get that 81 equals 3 times 3 times 3 times 3. **Answer choice (D) is the correct answer.** To see a step-by-step solution of this problem, follow this link, type in the number, and choose “Find prime factorization and factor tree”: [prime factorization calculator](#)
3. Prime Factorization means finding which prime numbers multiply together to make the original number. To find the prime factorization of 10, make a factor tree for 10 and continue breaking up the factors into more branches until you are left with all prime numbers. If you do this, you get that 10 equals 2 times 5. **Answer choice (A) is the correct answer.** To see a step-by-step solution of this problem, follow this link, type in the number, and choose “Find prime factorization and factor tree”: [prime factorization calculator](#)
4. Prime Factorization means finding which prime numbers multiply together to make the original number. To find the prime factorization of 25, make a factor tree for 25 and continue breaking up the factors into more branches until you are left with all prime numbers. If you do this, you get that 25 equals 5 times 5. **Answer choice (B) is the correct answer.** To see a step-by-step solution of this problem, follow this link, type in the number, and choose “Find prime factorization and factor tree”: [prime factorization calculator](#)
5. Prime Factorization means finding which prime numbers multiply together to make the original number. To find the prime factorization of 27, make a factor tree for 27 and continue breaking up the factors into more branches until you are left with all prime numbers. If you do this, you get that 27 equals 3 times 3 times 3. **Answer choice (C) is the correct answer.** To see a step-by-step solution of this problem, follow this link, type in the number, and choose “Find prime factorization and factor tree”: [prime factorization calculator](#)
6. Prime Factorization means finding which prime numbers multiply together to make the original number. To find the prime factorization of 20, make a factor tree for 20 and continue breaking up the factors into more branches until you are left with all prime numbers. If you do this, you get that 20 equals 2 times 2 times 5. **Answer choice (B) is the correct answer.** To see a step-by-step solution of this problem, follow this link, type in the number, and choose “Find prime factorization and factor tree”: [prime factorization calculator](#)

7. Prime Factorization means finding which prime numbers multiply together to make the original number. To find the prime factorization of 50, make a factor tree for 50 and continue breaking up the factors into more branches until you are left with all prime numbers. If you do this, you get that 50 equals 5 times 5 times 2. **Answer choice (A) is the correct answer.** To see a step-by-step solution of this problem, follow this link, type in the number, and choose “Find prime factorization and factor tree”: [prime factorization calculator](#)
8. Prime Factorization means finding which prime numbers multiply together to make the original number. To find the prime factorization of 36, make a factor tree for 36 and continue breaking up the factors into more branches until you are left with all prime numbers. If you do this, you get that 36 equals 2 times 2 times 3 times 3. **Answer choice (D) is the correct answer.** To see a step-by-step solution of this problem, follow this link, type in the number, and choose “Find prime factorization and factor tree”: [prime factorization calculator](#)
9. Prime Factorization means finding which prime numbers multiply together to make the original number. To find the prime factorization of 35, make a factor tree for 35 and continue breaking up the factors into more branches until you are left with all prime numbers. If you do this, you get that 35 equals 7 times 5. **Answer choice (A) is the correct answer.** To see a step-by-step solution of this problem, follow this link, type in the number, and choose “Find prime factorization and factor tree”: [prime factorization calculator](#)
10. Prime Factorization means finding which prime numbers multiply together to make the original number. To find the prime factorization of 16, make a factor tree for 16 and continue breaking up the factors into more branches until you are left with all prime numbers. If you do this, you get that 16 equals 2 times 2 times 2 times 2. **Answer choice (D) is the correct answer.** To see a step-by-step solution of this problem, follow this link, type in the number, and choose “Find prime factorization and factor tree”: [prime factorization calculator](#)
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Order of Operations Set 1

1. PEMDAS tells us to do division before subtraction. 40 divided by 5 equals 8. Now subtract 8 from 55 which equals 47. **Answer choice (B) is the correct answer.**
2. PEMDAS tells us that if we just have multiplication and division, go left to right. First divide 64 by 4 to get 16. Then multiply 16 by 8 to get 128. **Answer choice (D) is the correct answer.**
3. PEMDAS tells us to do multiplication before addition. 20 times 5 equals 100. Now add 80 to 100 to get 180. **Answer choice (C) is the correct answer.**
4. PEMDAS tells us to do what is inside the parentheses first. 40 minus 20 equals 20. Now we have 50 times 20 all over 25. This is the same as 50 times 20 divided by 25. Complete the multiplication

first: 50 times 20 equals 1000. Now divide 1000 by 25 to get 40. **Answer choice (B) is the correct answer.**

5. We can try each answer choice until we get one that equals 31. For answer choice (A), we do 18 divided by 6 first to get 3. Now move left to right. 36 minus 3 equals 33. 33 minus 5 equals 28. 28 plus 3 equals 31. **Answer choice (A) is the correct answer.** For answer choice (B), we do 36 minus 18 first since it's in parentheses, and we get 18. Next, 18 divided by 6 equals 3. Now 3 minus 5 equals -2 and -2 plus 3 equals 1. Answer choice (B) is incorrect. For answer choice (C), we do 6 minus 5 first since it's in parentheses, and we get 1. Next we do 18 divided by 1 which is 18. Now 36 minus 18 equals 18 and 18 + 3 equals 21. Answer choice (C) is incorrect. For answer choice (D), we do 5 plus 3 first since it's in parentheses, and we get 8. Next, 18 divided by 6 equals 2. Next we do 36 minus 3 to get 33 and 33 minus 8 to get 25.
6. PEMDAS tells us to do what's inside the parentheses first, so we do 45 minus 15 which equals 30. Next, that 4 next to the parentheses means multiplication, so we multiply 4 by 30 which equals 120. Finally, 16 plus 120 equals 136. **Answer choice (B) is the correct answer.**
7. PEMDAS tells us to do what's inside the parentheses first, so we do 35 plus 55 which equals 90. Next, that 20 next to the parentheses means multiplication, so now our expression is 20 times 90 divided by 6. Do the multiplication first: 20 times 90 equals 1800. Finally, divide 1800 by 6 to get 300. **Answer choice (A) is the correct answer.**
8. We can try each answer choice until we get one that equals 9. For answer choice (A), start with 14 minus 7 because it's in parentheses and we get 7. Next, multiply 3 by 7 to get 21. Finally 6 minus 21 is a -15, so answer choice (A) is incorrect. For answer choice (B) start with the multiplication: 3 times 14 equals 42. Next, do 30 minus 42 which equals -12. Finally -12 minus 7 equals -19, so answer choice (B) is incorrect. For answer choice (C), start with 14 minus 7 because it's in parentheses and we get 7. Next, multiply 3 by 7 to get 21. **Finally, 30 minus 21 equals 9, so answer choice (C) is the correct answer.** For answer choice (D), start with 6 minus 3 because it's in parentheses and we get 3. Next multiply 3 by 14 to get 42. Finally, 42 minus 7 equals 35, so answer choice (D) is incorrect.
9. PEMDAS tells us to start with what's inside the parentheses first, so we do 89 minus 87 which equals 2. Next, the 3 next to the parentheses means multiply, so multiply 3 and 2 to get 6. Next, multiply 7 and 3 to get 21. Now we have 6 + 6 + 21. **Add the numbers and we get 33. Answer choice (A) is the correct answer.**
10. We can try each answer choice until we get one that equals 40. For answer choice (A), start with multiplication: 6 times 3 equals 18. Then add 18 and 5 to get 23 and subtract 8 to get 15. Answer choice (A) is incorrect. For answer choice (B), start with 3 plus 5 minus 8 because it's in parentheses. 3 plus 5 equals 8. 8 minus 8 equals 0. Now we have 6 times 0 which equals 0. Answer choice (B) is incorrect. For answer choice (C), start with 5 minus 8 because it's in parentheses and we get -3. Now multiply 6 times 3 to get 18. 18 plus -3 equals 15, so answer choice (C) is incorrect.

For answer choice (D), start with $3 + 5$ because it's in parentheses and we get 8. Next multiply 6 times 8 to get 48. **Finally, 48 minus 8 equals 40, so answer choice (D) is the correct answer.**

Order of Operations Practice Set 2

1. PEMDAS tells us to do multiplication before addition. 8 times 3 equals 24. Now add 32 and 24 which equals 56. **Answer choice (A) is the correct answer.**
2. PEMDAS tells us to do division before addition and subtraction. 16 divided by 8 equals 2. Now move left to right subtract 2 from 64 which equals 62. Then add 64 and 4 which equals 66. **Answer choice (D) is the correct answer.**
3. PEMDAS tells us to start with what's inside the parentheses first, so we do 120 minus 40 which equals 80. Next the 6 next to the parentheses means multiply, so multiply 6 and 80 which equals 480. Now divide 480 by 30 which equals 16. **Answer choice (B) is the correct answer.**
4. PEMDAS tells us to start with what's inside the parentheses first, so we add 6 and 4 which equals 10. Next the 5 next to the parentheses means multiply, so multiply 5 and 10 which equals 50. Now add 7 plus 50 which equals 57. **Answer choice (A) is the correct answer.**
5. We can try each answer choice until we get one that equals 7. For answer choice (A), we do 20 divided by 5 first to get 4. Now move left to right. 10 plus 4 equals 14. 14 minus 3 equals 11. 11 plus 4 equals 15. Answer choice (A) is incorrect. For answer choice (B), we start with what's inside the parentheses. 20 divided by 5 equals 4. We then move left to right. 10 plus 4 equals 14. 14 minus 3 equals 11. 11 plus 4 equals 15. Answer choice (B) is incorrect. For answer choice (C), we start with what's inside the parentheses. 10 plus 20 equals 30. Next PEMDAS tells us to start with division. 30 divided by 5 equals 6. Now move left to right. 6 minus 3 equals 3. 3 plus 4 equals 7. **Answer choice (C) is the correct answer.** For answer choice (D), we do 5 minus 3 first since it's in parentheses, and we get 2. Next, 20 divided by 2 equals 10. Now move left to right. 10 divided by 10 equals 1. 1 plus 4 equals 5. Answer choice (D) is incorrect.
6. PEMDAS tells us that if we just have addition and subtraction, go left to right. First subtract 14 from 54 to get 40. Then add 40 plus 10 to get 50. Then subtract 7 from 50 to get 43. Then subtract 2 from 43 to get 41. **Answer choice (C) is the correct answer.**
7. PEMDAS tells us to start with what's inside the parentheses first, so we add 5 and 95 which equals 100. Next the 140 next to the parentheses means multiply, so multiply 140 times 100 which equals 14,000. Now divide 14,000 by 7 to get 2,000. **Answer choice (B) is the correct answer.**
8. PEMDAS tells us to do multiplication and division before subtraction. So moving from left to right we start with 12 times 6 which equals 72. Next, we do 24 divided by 8 which equals 3. Next, we do 72 minus 3 which equals 69. **Answer choice (C) is the correct answer.**

9. We can try each answer choice until we get one that equals 14. For answer choice (A), we do $5 + 2$ first because it's inside the parentheses. This gives us 7. Next, 7×10 equals 70. Last, $70 - 8$ equals 62. Answer choice (A) is incorrect. For answer choice (B), we have two parentheses so we go from left to right. $5 + 2$ equals 7. $10 - 8$ equals 2. Now we multiply 7 times 2 which equals 14. **Answer choice (B) is the correct answer.** For answer choice (C), we do $10 - 8$ first because it's inside the parentheses. This gives us 2. Next, PEMDAS tells us multiplication comes before addition, so we do 2×2 , which equals 4. Last, $5 + 4$ equals 9. Answer choice (C) is incorrect. For answer choice (D), PEMDAS tells us multiplication comes before addition and subtraction, so we do 2×10 , which equals 20. Now move left to right. $5 + 20$ equals 25. $25 - 8$ equals 17. Answer choice (D) is incorrect.
10. We can try each answer choice until we get one that equals 10. For answer choice (A), we start with what is inside the parentheses. In this case we have two operations inside the parentheses, so PEMDAS tells us division comes before addition. $8 \div 4$ equals 2. $4 + 2$ equals 6. Next, $12 - 6$ equals 6. Answer choice (A) is incorrect. For answer choice (B), we start with what's inside the parentheses. Again, we have 2 operations inside the parentheses, but this time it's only addition and subtraction, so we just move from left to right. $12 - 4$ equals 8. $8 + 8$ equals 16. Next, $16 \div 4$ equals 4. Answer choice (B) is incorrect. For answer choice (C), we do $4 + 8$ first since it's in parentheses, and we get 12. Next, PEMDAS tells us division comes before subtraction, so we do $12 \div 4$, which equals 3. Last, $12 - 3$ equals 9. Answer choice (C) is incorrect. For answer choice (D), PEMDAS tells us that division comes before addition and subtraction. $8 \div 4$ equals 2. Now move left to right. $12 - 4$ equals 8. $8 + 2$ equals 10. **Answer choice (D) is the correct answer.**
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Story Word Problems Practice Set 1

1. Vivian has 28 pieces of candy, and she wants to eat the same amount of candy each day for a week. This means she wants to evenly split her 28 pieces of candy by 7 days. **The word “split” means divide, so we want to divide 28 pieces by 7 days, so answer choice (A) is correct.**
2. The expression in the problem is $28 + 14$, so we are looking for an answer choice that requires addition. Answer choice (A) requires subtraction, because we want to determine how many more pencils Butch bought in June than July, so answer choice (A) is incorrect. Answer choice (B) requires multiplication because Butch bought 28 pencils each day for a total of 14 days, so answer choice (B) is incorrect. Answer choice (C) requires division because Butch wants to split 28 pencils into 14 groups, and split means divide, so answer choice (C) is incorrect. **Answer choice (D) is correct because we want to find the total number of pencils Butch purchased on Monday and Tuesday, so we add the 28 pencils he bought on Monday with the 14 pencils he bought on Tuesday.**

3. Justin is 37 years old, and the problem tells us Justin is 26 years younger than Anthony. This means that Anthony is 26 years older than Justin. To find Anthony's age, we need to add 26 years to Justin's 37 years. **Answer choice (C) adds 37 and 26, so answer choice (C) is correct.**
4. The expression in the problem is 43 minus 27, so we are looking for an answer choice that requires subtraction. Answer choice (A) does require subtraction, but it requires us to do 27 minus 43 which is not the same as 43 minus 27. Answer choice (A) is incorrect. Answer choice (B) says Gwen made \$43 this week which is \$27 more than last week. This means, last week Gwen made \$27 less than she did this week, so we do 43 minus 27. **Answer choice (B) is the correct answer.** Answer choice (C), says Gwen made \$43 this week which is \$27 less than she made last week. This means, last week Gwen made \$27 more than she made this week, so we do 43 plus 27. Answer choice (C) is incorrect. Answer choice (D) requires addition because Gwen has \$27 and deposited \$43 more dollars; deposit means add. Answer choice (D) is incorrect.
5. We know that the number of pages Greg has already read so far plus the number of pages he still needs to read should equal the total number of pages he needs to read by the end of the week. This means that the number of pages he has left to read is equal to the total number of pages he needs to read by the end of the week *minus* the number of pages he has read so far. **Answer choice (A) is the correct answer.**
6. The equation in the problem is 35 times 7 equals 245, so we are looking for multiplication or division (since they are inverse operations). Answer choice (A) says Brenda sells boxes for cookies for \$7 each and she wants to make \$245 total. To find how many boxes she needs to sell, we need to figure out what multiplied by 7 will give us 245, or divide 245 by 7. **The original equation tells us that if we multiply 35 by 7, we get 245, so answer choice (A) is the correct answer.** Answer choice (B) is incorrect because it requires us to do 245 divided by 42. Answer choice (C) is incorrect because it requires us to subtract 35 from 245. Answer choice (D) is incorrect because it requires us to subtract 7 from 35.
7. The original equation involves division, so we are looking for an answer choice that requires division or multiplication (since they are inverse operations). Answer choice (A) requires subtraction because we know Henry drank 12 *fewer* ounces of water on Thursday than Wednesday. Answer choice (A) is incorrect. Answer choice (B) requires division, because we want to divide 96 ounces of water equally over 12 days. **Since this requires 96 divided by 12 which equals 8, answer choice (B) is the correct answer.** Answer choice (C) requires multiplication since he drank 12 ounces each day for 96 days, so answer choice (C) is incorrect. Answer choice (D) requires addition because we want to know the total ounces Henry drank on Tuesday and Wednesday, so answer choice (D) is incorrect.
8. In order to find out how much total money Mrs. Hanson will spend on tickets, we need to know the number of tickets she is buying and how much each ticket costs. Because she knows this information, we just have to multiply the two numbers to find the answer. For example, if she was

buying 3 tickets and each ticket cost one dollar, then we would multiply 3 tickets times 1 dollar which equals 3 dollars. **Answer choice (C) is the correct answer.**

9. We know that the number of students that can go on the trip is equal to the number of students that can fit on one bus times the number of buses that you have. In order to find out how many buses Lucille needs, we have to divide the number of students going on the trip by the number of students that each bus can hold. **Answer choice (D) is the correct answer.**
10. The expression in the problem is 60 plus 40 in parentheses and then multiply that times 4, so we are looking for an answer choice that requires addition and THEN multiplication. Answer choice (A) requires addition and then division because Lauren baked 60 cupcakes on Monday plus 40 cupcakes on Tuesday and then divided the total into groups of 4 cupcakes, so answer choice (A) is incorrect. Answer choice (B) requires multiplication and then addition because Lauren baked 60 cupcakes times 4 days plus the 40 cupcakes she baked the next day, so answer choice (B) is incorrect. **Answer choice (C) is correct because Lauren and 3 of her friends each baked 60 cupcakes plus 40 more, so we add 60 plus 4 and multiply it by 4 because it's Lauren plus 3 friends.** Answer choice (D) requires multiplication and addition but the order is wrong. Lauren's friend baked 60 cupcakes and you add that to the amount Lauren baked, which is 40 times 4. If there were no parentheses in the expression this story would work but because there are, answer choice (D) is incorrect.
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Story Word Problems Practice Set 2

1. The expression in the problem is 17 plus 9, so we are looking for an answer choice that requires addition. Answer choice (A) requires subtraction, because we want to determine how much faster Paul ran the race compared to Nancy, so answer choice (A) is incorrect. Answer choice (B) requires subtraction also, because we want to determine how much faster Nancy ran the race compared to Paul, so answer choice (B) is incorrect. **Answer choice (C) is correct because we want to determine how long it took Paul to run the race, so we add 9 minutes to Nancy's time, which was 17 minutes.** Answer choice (D) requires division because Paul ran the race 9 times as fast as Nancy so we have to divide 17 by 9. Answer choice (D) is incorrect.
2. The equation in the problem is 61 minus 43 equals 18, so we are looking for an answer choice that requires subtraction. Answer choice (A) requires us to subtract 18 from 61. Since $61 - 18 = 43$, this is in the same fact family as $61 - 43 = 18$. **Therefore, answer choice (A) is the correct answer.** Answer choice (B) requires addition because we want to find the sum of the amount of money Fred spent on Monday and Tuesday, so answer choice (B) is incorrect. Answer choice (C) requires division because Fred spent 61 dollars in total on 43 equally priced items, so answer choice (C) is incorrect. Answer choice (D) requires subtraction but it requires us to do 43 minus 18, so answer choice (D) is incorrect.

3. Samantha is 15 years old and the problem tells us that this is 5 times as old as Jenny. To find Jenny's age we have to divide Samantha's age by 5 so 15 divided by 5. **Answer choice (D) is the correct answer.**
4. We know Serena's starting weight minus how many pounds she has already lost should equal how many pounds she currently weighs. This means that her starting weight equals how many pounds she lost plus how many pounds she currently weighs. **Answer choice (A) is the correct answer.**
5. The expression in the problem is 5 times 20, so we are looking for an answer choice that requires multiplication. **Answer choice (A) is correct because we want to find the total number of tennis balls in twenty packs, so we do 20 (number of packs) times 5 (number of balls in each pack).** Answer choice (B) requires subtraction because the tennis coach starts with 20 packs and returns 5, so answer choice (B) is incorrect. Answer choice (C) requires division because the tennis coach has 20 packs and gives each of his players 5 packs and we want to determine how many players are on the team, so answer choice (C) is incorrect. Answer choice (D) requires addition because the tennis coach has 20 packs and his friend gives him 5 more, so answer choice (D) is incorrect.
6. We know that how many square feet each can of paint covers times how many cans Zane buys should equal how many square feet of wall Zane can paint. This means that the number of cans Zane needs to buy equals the number of square feet he has to paint, divided by the number of square feet each can of paint covers. **Answer choice (B) is the correct answer.**
7. The equation in the problem is 45 divided by 9 equals 5, so we are looking for an answer choice that requires division or multiplication (since they are inverse operations). Answer choice (A) requires subtraction because Mr. Linden starts with 45 students and 9 students leave, so answer choice (A) is incorrect. Answer choice (B) says Mr. Linden has 45 students in his class and wants to make 5 teams. To figure out how many students he should put on each team, we need to figure out what to divide 45 by to give us 5, or divide 45 by 5. **The original equation tells us that if we divide 45 by 9 we get 5, so answer choice (B) is correct.** Answer choice (C) requires addition because Mr. Linden starts with 45 students and 5 more students are added in, so answer choice (C) is incorrect. Answer choice (D) requires multiplication because each of Mr. Linden's 45 students get 9 points and we are looking for the total number of points awarded, so answer choice (D) is incorrect.
8. A gallon of milk costs 2 dollars and the problem tells us that Carl buys 8 of them. To find out how much he spends in total we have to multiply the price of one gallon of milk times the number of gallons of milk that Carl buys, so 2 times 8. **Answer choice (C) is the correct answer.**
9. The expression in the problem is 12 times 6 minus 4, so we are looking for an answer choice that requires multiplication and subtraction. Answer choice (A) requires subtraction and multiplication but the order is wrong. 6 batches minus the 4 that she throws away times 12 muffins in each batch. Because there are no parentheses around the 6 minus 4 in the expression, this story won't work, so answer choice (A) is incorrect. Answer choice (B) requires multiplication, addition and subtraction because Greta bakes 12 muffins on Monday plus 6 times 12 muffins on Tuesday minus the 4 muffins

she eats, so answer choice (B) is incorrect. Answer choice (C) requires subtraction and addition because Greta bakes 6 muffins minus the 4 that she eats plus the 12 more that she bakes, so answer choice (C) is incorrect. **Answer choice (D) is correct because Greta bakes 6 batches of muffins and each batch has 12 muffins, so she bakes 6 times 12 muffins in total. She then eats four muffins so we subtract 4 from the total to find how many muffins she has left.**

10. In order to find out how much money it will cost Will to fill his gas tank we have to take the number of gallons his tank can hold and multiply it by the amount of money each gallon of gas costs. For example if his tank could only hold 2 gallons of gas and 1 gallon of gas costs 2 dollars, then it would cost 2 dollars for one gallon of gas times 2 (the amount of gas his tank can hold) which equals 4 dollars. **Answer choice (D) is the correct answer.**
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Patterns Practice Set 1

1. In the first row of the pattern, there are 2 squares. The next row has 4 squares, the next row has 6 squares, and the next row has 8 squares. The pattern is adding 2 more squares for each new row. To find the fifth row, add 2 squares to the fourth row: 8 plus 2 equals 10. To find the sixth row, add 2 squares to the fifth row: 10 plus 2 equals 12. Finally, to find the seventh row, add 2 squares to the sixth row: 12 plus 2 equals 14. **Answer choice (D) is the correct answer.**
2. Each number in the pattern is 3 times the previous number. To find the missing number, multiply 27 by 3 which equals 81. **Answer choice (B) is the correct answer.**
3. As Trevor becomes one year older, he can run 2 more miles than he could the previous year. At age 13, he could run 3 miles. This means at age 12, he could run 2 fewer miles than he could at age 13, so he could run 1 mile at age 12. At age 18, Trevor could run 13 miles. This means at age 17, he could run 2 fewer miles than he could at age 17, so he could run 11 miles at age 17. **The difference between 11 and 1 is 10, so answer choice (C) is the correct answer.**
4. Each number in the pattern is 5 less than the previous number. To find the next number in the pattern, subtract 5 from -11 which equals -16. **Answer choice (B) is the correct answer.**
5. The pattern repeats every 5 shapes. This means the 5th shape (which is a lightning bolt) is the same as the 10th shape, the 15th shape, the 20th shape and so on. If the 20th shape is a lightning bolt, we can use the pattern to find the next three shapes. The 21st shape is a moon, the 22nd shape is a cross, and the 23rd shape is a smiley face. **Answer choice (A) is the correct answer.**
6. The price of the stock at month one is a . Since the price of the stock doubles each month, at month two, the stock price will be $2a$. At month three, the price will be double the price at month two, so the price will be $4a$. At month four, the price will be double the price at month three, so the price will be $8a$. **Answer choice (C) is the correct answer.**

7. Each figure has one more row and one more column than the previous figure. The fourth figure has four rows and four columns, so the fifth figure will have five rows and five columns. The sixth figure will have six rows and six columns. To find the total number of squares in the sixth row, multiply the number of rows (6) by the number of columns (6) to get 36 squares. **Answer choice (C) is the correct answer.**
8. If you look at the right column of the table, the cost goes up by \$10, then \$8, then \$6. Each time the number of people is increased by one, the price goes up by \$2 fewer than the previous change. This means that when there are 5 people, the price should go up by \$4. **\$36 plus \$4 equals \$40, so answer choice (A) is the correct answer.**
9. From 19 to 21, you add two. From 21 to 16, you subtract five. From 16 to 18, you add two. From 18 to 13, you subtract five. The pattern is add two and then subtract five. Since we subtracted five from 18 to 13, we need to add two to 13 to find the next number. **13 plus 2 equals 15, so answer choice (D) is the correct answer.**
10. If you look at the right column of the table, the number of pushups go up by one, then two and then there is a missing number. Then the number of pushups goes up by four, then five. Each time the age goes up by two, the number of pushups go up by one more than the previous change. This means that at age 16, the number of pushups should be three more than the number of pushups at age 14. **Three more than eight is 11, so answer choice (C) is the correct answer.**

Patterns Practice Set 2

1. In the first figure of the pattern, there is 1 circle. The next figure has 3 circles, the next figure has 5 circles, and the next figure has 7 circles. The pattern is adding 2 more circles for each new figure. To find the fifth figure, add 2 circles to the fourth figure: 7 plus 2 equals 9. To find the sixth figure, add 2 circles to the fifth figure: 9 plus 2 equals 11. To find the seventh figure, add 2 circles to the sixth figure: 11 plus 2 equals 13. Finally, to find the eighth figure, add 2 circles to the seventh figure: 13 plus 2 equals 15. **Answer choice (D) is the correct answer.**
2. Each number in the pattern is 9 more than the previous number. To find the next number in the pattern, add 9 to 8 which equals 17. **Answer choice (A) is the correct answer.**
3. The pattern repeats every 4 shapes. This means the 4th shape (which is a circle) is the same as the 8th shape, the 12th shape, the 16th shape and so on (all the multiples of 4). Because we are looking for the 36th shape in the pattern and 36 is a multiple of 4, we know that the 36th shape will be a circle. **Answer choice (D) is the correct answer.**
4. In the first figure of the pattern, there is 1 square. The next figure has 3 squares, the next figure has 6 squares, and the next figure has 10 squares. Each figure in the pattern adds squares to the previous figure that are equal in number to which number figure it is in the pattern. For example, the second figure adds 2 squares to the previous figure, the third figure adds 3 squares to the previous figure,

and the fourth figure adds 4 squares to the previous figure. To find the fifth figure, add 5 squares to the fourth figure: 10 plus 5 equals 15. To find the sixth figure, add 6 squares to the fifth figure: 15 plus 6 equals 21. **Answer choice (C) is the correct answer.**

5. The price of the stock at year one is x . Since the price of the stock triples each year, at year two, the stock price will be $3x$. In year three, the price will be triple the price at year two, so the price will be $9x$. **Answer choice (B) is the correct answer.**
 6. If you look at the right column of the table, Demi's salary goes up by \$10,000 the first year and then there is a missing number. Then her salary is \$74,000 in 3 years and goes up by \$4,000 from 3 to 4 years, then it goes up by \$2,000 from 4 to 5 years. Her salary is increasing at a decreasing amount every year. Looking at years 3 through 5 it seems like every year the amount her salary increases decreases by \$2,000 compared to the previous year. Following this pattern, after 2 years Demi's salary should increase by \$2,000 less than it increased after 1 year. Subtracting \$2,000 from the \$10,000 increase of the first year equals \$8,000 and adding \$8,000 to \$60,000 equals \$68,000. To double check if this is correct, continue the pattern by adding \$6,000 to \$68,000. Doing this equals \$74,000 so we know the pattern is correct. **After 2 years Demi's salary will be \$68,000, so answer choice (C) is the correct answer.**
 7. From 8 to 16, you multiply by two. From 16 to 32, you multiply by two. From 32 to 64, you multiply by two. The pattern is multiplying by two, or doubling. To find the next number we have to multiply the current number by two. **128 multiplied by two equals 256, so answer choice (D) is the correct answer.**
 8. Each week Shane saves twice as much money as he did the previous week. Continuing this pattern, the fourth week Shane will save \$80 (twice the \$40 from the previous week), the fifth week Shane will save \$160, and the sixth week Shane will save \$320. **Answer choice (C) is the correct answer.**
 9. If you look at the precipitation numbers for town B in the table, you can see that the inches of precipitation is cut in half each year. To find how much rainfall is expected in 2006, take the rainfall from 2005 and half it, so 4in. in 2005 cut in half is 2in. expected in 2006. **Answer choice (B) is the correct answer.**
 10. From 8 to 10, you add two. From 10 to 13, you add three. From 13 to 15, you add two. From 15 to 18 you add three. The pattern is add 2 and then add 3. Since we added 2 from 18 to 20, we need to add 3 to find the next number in the pattern. **20 plus 3 equals 23, so answer choice (B) is the correct answer.**
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Properties Practice Set 1

1. The commutative property of addition states that the order in which we add numbers does not matter. **Answer choice (A) is the correct answer because it illustrates that the order does not matter when adding y and z .**
2. The identity property of multiplication states that a number multiplied by 1 equals itself. **The given equation shows that a times 1 is equal to itself, so answer choice (B) is correct.**
3. The associative property states that the way the numbers are grouped (put into parenthesis) in an addition or multiplication problem does not change the answer. Since it only applies to problems that ONLY use addition or ONLY use multiplication, answer choices (A), (C), and (D) are incorrect. **Answer choice (B) is the correct answer because it correctly shows the associative property of multiplication.**
4. The identity property of addition states that anything plus 0 is equal to itself. **Answer choice (D) is the correct answer because it illustrates that 30 plus 0 is equal to itself.**
5. The associative property states that the way the numbers are grouped (put into parenthesis) in an addition or multiplication problem does not change the answer. **The given equation shows that grouping the four and seven is the same as grouping the five and four when completing the multiplication problem, so answer choice (D) is the correct answer.**
6. The identity property of multiplication states that a number multiplied by 1 equals itself. **Answer choice (C) is the correct answer because it illustrates that 15 multiplied by 1 is equal to itself.**
7. The identity property of addition states that anything plus 0 is equal to itself. **The given equation shows that 56 plus 0 is equal to itself, so answer choice (C) is the correct answer.**
8. The distributive property states that multiplying the sum of two or more numbers by a number will give the same result as multiplying each number individually by the number and then adding the products together. It also states that multiplying the difference of two or more numbers will give the same result as multiplying each number individually and then finding the difference of the products (the order matters). Answer choice (B) illustrates that multiplying three by the difference between four and five is the same as multiplying three by four and then subtracting three times five. **This correctly illustrates the distributive property, so answer choice (B) is correct.**
9. The distributive property states that multiplying the sum of two or more numbers by a number will give the same result as multiplying each number individually by the number and then adding the products together. **The given equation shows that multiplying a time the sum of b and c is the same as adding the product of a and b and the product of a and c , so answer choice (A) is the correct answer.**

10. The commutative property states that the order in which we add numbers or multiply numbers does not matter. **The given equation shows that the order in which we add $4x$ and $3x$ does not matter, so answer choice (A) is the correct answer.**

Properties Practice Set 2

1. The commutative property of addition states that the order in which we add numbers does not matter. **This is the property illustrated by the given equation, so answer choice (D) is the correct answer.**
2. The identity property of multiplication states that a number multiplied by 1 equals itself. **This is the property illustrated by the given equation, so answer choice (A) is the correct answer.**
3. The commutative property of addition states that the order in which we add numbers does not matter. **Answer choice (C) is correct because it illustrates that the order does not matter when adding 8, 3 and 4.**
4. The identity property of addition states that anything plus 0 is equal to itself. **The given equation shows that b plus 0 is equal to itself, so answer choice (D) is the correct answer.**
5. The associative property states that the way the numbers are grouped (put into parenthesis) in an addition or multiplication problem does not change the answer. Since it only applies to problems that ONLY use addition or ONLY use multiplication, answer choices (A), (B), and (D) are incorrect. **Answer choice (C) is correct because it correctly shows the associative property of addition.**
6. The distributive property states that multiplying the difference of two or more numbers by a number will give the same result as multiplying each number individually by the number and then finding the difference of the products (the order matters). **The given equation shows that multiplying a time the sum of b and c is the same as adding the product of a and b and the product of a and c , so answer choice (C) is the correct answer.**
7. The distributive property states that multiplying the sum of two or more numbers by a number will give the same result as multiplying each number individually by the number and then adding the products together. Answer choice (D) illustrates that multiplying four by the sum of x and y is the same as multiplying four by x and adding four times y . **This correctly illustrates the distributive property, so answer choice (D) is correct.**
8. The identity property of multiplication states that a number multiplied by 1 equals itself. **Answer choice (A) is correct because it illustrates d times 1 is equal to itself.**
9. The associative property states that the way the numbers are grouped (put into parenthesis) in an addition or multiplication problem does not change the answer. **The given equation shows that**

grouping the n and k is the same as grouping the m and n when completing the addition problem, so answer choice (B) is the correct answer.

10. The identity property of addition states that anything plus 0 is equal to itself. Answer choice (B) is the correct answer because it illustrates that 56 plus 0 is equal to itself.
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Vocabulary Practice Set 1

1. Integers are any numbers that are not fractions or decimals. Answer choice (D) is the correct answer because 3.25 is a decimal, so it is NOT an integer.
2. The set of numbers consists of all odd numbers (numbers that cannot be divided by 2), so answer choice (A) is correct. The numbers are not all prime, because prime numbers are only divisible by one and themselves: the number 9 is divisible by 3, so it is not prime. This means answer choice (B) is incorrect. The numbers are not all composite, because composite numbers are divisible by something other than 1 and themselves. The numbers 3, 5, 7, and 11 are only divisible by 1 and themselves, so they are not composite. This means answer choice (C) is incorrect. Since the numbers are odd numbers, they cannot be even numbers, so answer choice (D) is incorrect.
3. Irrational numbers are numbers that cannot be written as a fraction. Answer choice (B) can be written as a fraction because it is a repeating decimal. Answer choice (C) can be written as a fraction because it is an integer. Answer choice (D) is a fraction. This leaves answer choice (A) as the correct answer.
4. The numbers in the set are all multiples of 7 (the result of multiplying 7 by any whole number), so answer choice (A) is the correct answer. The numbers are not factors of 7 because factors are what multiply to a number, so answer choice (B) is incorrect. The numbers are not all odd numbers because 14, 28, and 42 are all divisible by 2, so answer choice (C) is incorrect. The numbers are not irrational because irrational numbers cannot be written as fractions, and all integers can be written as fractions, so answer choice (D) is incorrect.
5. The number 9.5 is a decimal, so it cannot be an integer. Decimals cannot be even or odd. This means answer choices (B) and (D) are incorrect. Rational numbers are any numbers that can be written as a fraction. Since 9.5 can be written as a fraction it is a rational number, so answer choice (C) is the correct answer.
6. Denominators are the bottoms of fractions. In answer choice (B), both fractions have a denominator of 7, so answer choice (B) is the correct answer.
7. Prime numbers are numbers that are only divisible by one and themselves. Composite numbers are numbers that are divisible by something other than one and themselves. 0 and 1 are special numbers

and are neither prime nor composite, so answer choices (A) and (B) are incorrect. Answer choice (D) is incorrect because 9 is divisible by 3, so it is not prime. **This leaves answer choice (C) as the correct answer.**

8. The number -8 is an integer because it is not a fraction or decimal, so answer choice (C) is incorrect. It is also even because it is divisible by 2, so answer choice (B) is correct.. It is composite because it is divisible by 2 and 4, not just by one and itself, so answer choice (A) is incorrect. **This leaves us with answer choice (D) as the correct answer. An irrational number is any number that cannot be written as a fraction.**
9. Answer choice (A) is incorrect because 1 is not even (it is not divisible by 2). Answer choice (C) is incorrect because multiples of 12 are the results of multiplying 12 by any whole number (12, 24, 36, 48, etc.). Answer choice (D) is incorrect because 2 and 3 are prime numbers, not composite. **Answer choice (B) is the correct answer because factors of 12 are numbers that 12 is divisible by.**
10. Consecutive numbers are numbers that are one after another. **Answer choice (C) is correct because 7, 8, 9, and 10 are one after another, so they are consecutive numbers.**

Vocabulary Practice Set 2

1. Numerators are the tops of fractions. **In answer choice (B), both fractions have a numerator of 7, so answer choice (B) is the correct answer.**
2. Integers are any numbers that are not fractions or decimals. **Answer choice (C) is correct because it is the only choice that is not a fraction or a decimal.**
3. Irrational numbers are numbers that cannot be written as a fraction. Answer choice (B) can be written as a fraction because it is an integer.. Answer choice (C) can be written as a fraction because it is a decimal. Answer choice (D) can be written as a fraction because it is a repeating decimal.. **This leaves answer choice (A) as the correct answer.**
4. The number $2\frac{1}{3}$ is a fraction so it cannot be even or odd. It is also a fraction so it cannot be an integer. **Because it is a fraction it is also a rational number so answer choice (B) is correct.**
5. **The numbers in the set are all even numbers so answer choice (D) is correct.** They are not all multiples of 4 because 10 is not a multiple of 4 so answer choice (B) is incorrect. They are not consecutive numbers because they are not one after another in sequence so answer choice (C) is incorrect. They are not odd numbers because they are all divisible by 2 so answer choice (D) is incorrect.
6. **The numbers in the set are all factors of 20, all the numbers in the set can be multiplied by some other number and the answer will be 20, so answer choice (A) is correct.** They are not all even numbers because 5 is an odd number so answer choice (B) is incorrect. They are not multiples of

20 because multiples of 20 are the result of multiplying 20 by a whole number (20, 40, 60, etc.) so answer choice (C) is incorrect. They are not all composite numbers because 2 and 5 are prime numbers and 1 is neither a prime number nor a composite number so answer choice (D) is incorrect..

7. Odd numbers are numbers that are not divisible by 2 so answer choices (A) and (D) are incorrect because they contain even numbers. Consecutive numbers are numbers that come one after another in a sequence, in this case consecutive odd numbers, so answer choice (C) is incorrect because 7 does not come after 3 in the sequence of odd numbers. **This leaves answer choice (B) as the correct answer.**
 8. **The numbers in the set are all multiples of 5 (the result of multiplying 5 by any whole number), so answer choice (A) is correct.** The numbers are not factors of 5 because factors are what multiply to a number, so answer choice (B) is incorrect. The numbers are not all odd numbers because 10, 20 and 30 are even numbers, so answer choice (C) is incorrect. The numbers are not irrational numbers because they can all be written as fractions, so answer choice (D) is incorrect.
 9. We are looking for the answer that does NOT describe the number 11. 11 is an odd number so answer choice (A) is incorrect. 11 is a whole number so answer choice (B) is incorrect. 11 is an integer so answer choice (C) is incorrect. **11 is not a composite number because it is only divisible by 1 and itself, so it is a prime number, so answer choice (D) is correct.**
 10. Composite numbers are numbers that have more than 2 factors. Answer choices (A) and (D) are incorrect because 2 and 3 are prime numbers and only have 2 factors. Answer choice (B) is incorrect because 0 and 1 are special numbers that are neither prime nor composite. **This leaves answer choice (C) as the correct answer.**
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Fractions Practice Set 1

1. When adding fractions with different denominators, you need to find a common denominator by finding the LCM of both denominators. The LCM of 3 and 6 is 6, so change both denominators to be 6. $\frac{2}{3}$ becomes $\frac{4}{6}$ and $\frac{5}{6}$ stays the same. Now add $\frac{4}{6}$ and $\frac{5}{6}$ by adding the numerators to get $\frac{9}{6}$. Simplify $\frac{9}{6}$ by dividing the top and bottom of the fraction by 3 and you get $\frac{3}{2}$. **Answer choice (D) is the correct answer.**
2. When subtracting fractions with different denominators, you need to find a common denominator by finding the LCM of both denominators. The LCM of 7 and 9 is 63, so change both denominators to 63. $\frac{7}{9}$ becomes $\frac{49}{63}$ and $\frac{3}{7}$ becomes $\frac{27}{63}$. Now subtract the numerators to get $\frac{22}{63}$. **Answer choice (A) is the correct answer.**
3. Add the whole numbers and fraction parts separately. If you add the whole numbers, 1 and 2, you get 3. To add the fractions, change the denominator to the LCM of 2, 4, and 8 which is 8. $\frac{1}{2}$ becomes

$\frac{4}{8}$, $\frac{3}{4}$ becomes $\frac{6}{8}$, and $\frac{5}{8}$ stays as it is. Now add the numerators of the three fractions to get $\frac{15}{8}$. $\frac{15}{8}$ as a mixed number is $1\frac{7}{8}$. Finally, add $1\frac{7}{8}$ and 3 from the beginning to get $4\frac{7}{8}$.

Answer choice (C) is the correct answer.

4. When dividing mixed numbers, first change each fraction into an improper fraction. $1\frac{3}{4}$ becomes $\frac{7}{4}$, and $1\frac{1}{12}$ becomes $\frac{13}{12}$. Next, remember “keep change flip” which means keep the first fraction the same, change the division sign to a multiplication sign, and flip the second fraction upside down. Now you have $\frac{7}{4}$ multiplied by $\frac{12}{13}$. When multiplying fractions, multiply straight across and reduce at the end. (You can also cross reduce before you multiply.) If you multiply $\frac{7}{4}$ and $\frac{12}{13}$, you get $\frac{84}{52}$ which simplifies to $\frac{21}{13}$ if you divide the numerator and denominator by 4. **Answer choice (A) is the correct answer.**
5. Remember PEMDAS when completing the problem, so subtract the fractions from left to right. First, change all of the fractions to have a common denominator by finding the LCM of 3, 12, and 6 which is 12. The problem now reads as $3\frac{4}{12} - 1\frac{7}{12} - \frac{10}{12}$. To subtract $1\frac{7}{12}$ from $3\frac{4}{12}$, we need to borrow from the 3 since $\frac{7}{12}$ is larger than $\frac{4}{12}$. Instead of $3\frac{4}{12}$, we have $2\frac{16}{12}$. Now subtract $1\frac{7}{12}$ from $2\frac{16}{12}$ to get $1\frac{9}{12}$. Finally, subtract $\frac{10}{12}$ from $1\frac{9}{12}$. Again, we need to borrow, so $1\frac{9}{12}$ becomes $\frac{21}{12}$. $\frac{21}{12} - \frac{10}{12} = \frac{11}{12}$. **The correct answer is answer choice (C).**
6. When multiplying mixed numbers, first change each fraction into an improper fraction. $1\frac{2}{5}$ becomes $\frac{7}{5}$, and $2\frac{6}{7}$ becomes $\frac{20}{7}$. Now multiply straight across and reduce at the end (you can also cross reduce before multiplying). $\frac{7}{5}$ multiplied by $\frac{20}{7}$ equals $\frac{140}{35}$ which simplifies to 4 if you divide the top and bottom by 35. **Answer choice (B) is the correct answer.**
7. When multiplying three fractions, you can multiply straight across or cross reduce first. For this problem it will be easier to cross reduce. Reduce the 9 and 18 by dividing them both by 9, so they become a 1 and 2 respectively. Reduce the 5 and 25 by dividing them both by 5, so they become a 1 and 5 respectively. Now we are multiplying $\frac{4}{1}$, $\frac{1}{7}$, and $\frac{2}{5}$. Multiply the numerators to get 8 and multiply the denominators to get 35, so the answer is $\frac{8}{35}$. **Answer choice (D) is the correct answer.**
8. Remember PEMDAS when completing this problem. Complete the multiplication before the addition. To multiply $\frac{3}{4}$ and $\frac{8}{9}$, multiply straight across and simplify at the end (you can also cross reduce before multiplying). If you multiply across, you get $\frac{24}{36}$ which simplifies to $\frac{2}{3}$ after dividing the numerator and denominator by 12. Now we add $\frac{1}{3}$ and $\frac{2}{3}$ which equals 1. **Answer choice (B) is the correct answer.**
9. Remember PEMDAS when completing this problem. Complete the division before the subtraction. To divide $\frac{1}{2}$ by 4, “keep change flip”. Keep $\frac{1}{2}$ the same, change the division sign to a multiplication sign, and flip the second fraction upside down. Now we have $\frac{1}{2}$ multiplied by $\frac{1}{4}$. Multiply straight across to get $\frac{1}{8}$. Now subtract $\frac{1}{8}$ from $1\frac{1}{2}$ by changing the denominators to the LCM of 2 and 8, which is 8. Now we have $1\frac{4}{8}$ minus $\frac{1}{8}$ which is $1\frac{3}{8}$. **Answer choice (C) is the correct answer.**

10. Remember PEMDAS when completing this problem. Change the denominator of each fraction to the LCM of 2, 5 and 10, which is 10. Now we have $75/2 + 18/10 - 13/10$. Now add the first two fractions to get $93/10$, and then subtract $13/10$ to get $80/10$. Simplify $80/10$ by dividing the numerator and denominator by 10 to get 8. **Answer choice (C) is the correct answer.**

Fractions Practice Set 2

1. When adding fractions with different denominators, you need to find a common denominator by finding the LCM of both denominators. The LCM of 8 and 4 is 8, so change both denominators to be 8. $3/4$ becomes $6/8$ and $5/8$ stays the same. Now add $6/8$ and $5/8$ by adding the numerators to get $11/8$. Change $11/8$ to a mixed number to get $1\ 3/8$. **Answer choice (C) is the correct answer.**
2. When subtracting fractions with different denominators, you need to find a common denominator by finding the LCM of both denominators. The LCM of 5 and 6 is 30, so change both denominators to 30. $4/5$ becomes $24/30$ and $1/6$ becomes $5/30$. Now subtract the numerators to get $19/30$. **Answer choice (A) is the correct answer.**
3. Add the whole numbers and fraction parts separately. If you add the whole numbers, 3 and 1, you get 4. To add the fractions, change the denominator to the LCM of 3, 6, and 9 which is 18. $1/3$ becomes $6/18$, $5/6$ becomes $15/18$, and $1/9$ becomes $2/18$. Now add the numerators of the three fractions to get $23/18$. Because the answer choices are written as improper fractions, change 4 from the beginning of the problem to an improper fraction with 18 as the denominator to get $72/18$. Now add $72/18$ to $23/18$ to get $95/18$. **Answer choice (B) is the correct answer.**
4. When dividing mixed numbers, first change each fraction into an improper fraction. $2\ 1/5$ becomes $11/5$, and $1\ 3/10$ becomes $13/10$. Next, remember “keep change flip” which means keep the first fraction the same, change the division sign to a multiplication sign, and flip the second fraction upside down. Now you have $11/5$ multiplied by $10/13$. When multiplying fractions, multiply straight across and reduce at the end. (You can also cross reduce before you multiply.) If you multiply $11/5$ and $10/13$, you get $110/65$ which simplifies to $22/13$ if you divide the numerator and denominator by 5. Written as a mixed number this is $1\ 9/13$. **Answer choice (A) is the correct answer.**
5. Remember PEMDAS when completing the problem, so subtract the fractions from left to right. First, change all of the fractions to have a common denominator by finding the LCM of 2, 3, and 6 which is 6. The problem now reads as $4\ 3/6 - 1\ 4/6 - 4/6$. To subtract $1\ 4/6$ from $4\ 3/6$, we need to borrow from the 4 since $4/6$ is larger than $3/6$. Instead of $4\ 3/6$, we have $3\ 9/6$. Now subtract $1\ 4/6$ from $3\ 9/6$ to get $2\ 5/6$. Finally, subtract $4/6$ from $2\ 5/6$ which equals $2\ 1/6$. **The correct answer is answer choice (C).**
6. When multiplying mixed numbers, first change each fraction into an improper fraction. $2\ 5/8$ becomes $21/8$, and $1\ 1/3$ becomes $4/3$. Now multiply straight across and reduce at the end (you can

also cross reduce before multiplying). $21/8$ multiplied by $4/3$ equals $84/24$ which simplifies to $7/2$ if you divide the top and bottom by 12. **Answer choice (D) is the correct answer.**

7. Remember PEMDAS when completing this problem. Change the denominator of each fraction to the LCM of 2, 5 and 10, which is 10. Now we have $45/10 - 22/10 + 17/10$. Now subtract $22/10$ from $45/10$ to get $23/10$, and then add $23/10$ plus $17/10$ to get $40/10$ which simplifies to 4 if you divide the top and bottom by 10. **Answer choice (A) is the correct answer.**
 8. When multiplying three fractions, you can multiply straight across or cross reduce first. For this problem it will be easier to cross reduce. Reduce both of the 11's by dividing them by 11, so they both become a 1. Reduce the 8 and 24 by dividing them both by 8, so they become a 1 and 3 respectively. Now we are multiplying $1/1$, $3/5$, and $1/3$. We can now cross reduce the 3's by dividing them both by 3, so now we are multiplying $1/1$, $1/5$, and $1/1$. $1/1$ equals 1, so we are multiplying $1/5$ by 1 which equals $1/5$. **Answer choice (D) is the correct answer.**
 9. Remember PEMDAS when completing this problem. Complete the multiplication before the addition. To multiply $4/7$ and $5/8$, multiply straight across and simplify at the end (you can also cross reduce before multiplying). If you multiply across, you get $20/56$ which simplifies to $5/14$ after dividing the numerator and denominator by 4. Now we add $3/7$ and $5/14$ by changing $3/7$ to $6/14$ and adding the numerators, which equals $11/14$. **Answer choice (B) is the correct answer.**
 10. Remember PEMDAS when completing this problem. Complete the division before the subtraction. To divide $2/3$ by 3, "keep change flip". Keep $2/3$ the same, change the division sign to a multiplication sign, and flip the second fraction upside down. Now we have $2/3$ multiplied by $1/3$. Multiply straight across to get $2/9$. Now subtract $2/9$ from $3\ 2/3$ by changing the denominators to the LCM of 3 and 9, which is 9. Now we have $3\ 6/9$ minus $2/9$ which is $3\ 4/9$. **Answer choice (C) is the correct answer.**
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Comparing Fractions Practice Set 1

1. When approaching this problem, first determine which fractions are less than a half, which fractions are greater than a half, and which fractions equal a half. Answer choice (A) equals a half, answer choice (C) is less than a half, and answer choices (B) and (D) are greater than a half. Since we are looking for the *largest* fraction, we can cross out answer choices (A) and (C). To compare $3/4$ and $7/8$, change $3/4$ into $6/8$ by multiplying the numerator and denominator by 2. **$7/8$ is larger than $6/8$, so answer choice (D) is the correct answer.**
2. When approaching this problem, first determine which fractions are less than a half, which fractions are greater than a half, and which fractions equal a half. Answer choices (A), (B), and (D) are all less than half, and answer choice (C) is greater than half. Since we are looking for the *smallest* fraction, we can cross out answer choice (C). Next, change $1/4$ into $2/8$ by multiplying the numerator and denominator by 2. $2/8$ is smaller than $3/8$, so we can cross out answer choice (D) Finally, $2/9$ is

smaller than $\frac{2}{8}$ because the denominator is larger and the numerators are the same. **Answer choice (A) is the correct answer.**

3. We are looking for a fraction that is greater than $\frac{1}{2}$ and less than $\frac{3}{4}$. Answer choice (A) is less than $\frac{1}{2}$, and answer choice (B) is equal to $\frac{1}{2}$, so we can cross out choice (A) and (B). $\frac{3}{5}$ is smaller than $\frac{3}{4}$ because both fractions have the same numerator, so the fraction with the larger denominator is the smaller fraction. **Since $\frac{3}{5}$ is greater than $\frac{1}{2}$ and less than $\frac{3}{4}$, answer choice (C) is the correct answer.**
4. For this problem, we want to start by converting each answer choice into a mixed number. Answer choice (A) becomes $2\frac{1}{7}$, answer choice (B) becomes $2\frac{1}{3}$, answer choice (C) becomes $2\frac{1}{9}$, and answer choice (D) becomes $2\frac{1}{5}$. Since each answer choice has 2 as the whole number, we can just compare the fractional parts. All of the fractions have the same numerator, so the fraction with the smallest denominator, $2\frac{1}{3}$, is the largest fraction (smaller denominator means larger pieces). **Answer choice (B) is the correct answer.**
5. We are looking for a fraction that is greater than $\frac{1}{4}$ and less than $\frac{3}{8}$. Answer choice (A) is less than $\frac{1}{4}$ because when fractions have the same numerator, the fraction with the larger denominator is the smaller fraction (larger denominator means smaller pieces), so we can cross out answer choice (A). $\frac{3}{7}$ is greater than $\frac{3}{8}$ because when fractions have the same numerator, the fraction with the smaller denominator is the larger fraction, so we can cross out answer choice (D). For answer choice (B), we know that $\frac{1}{3}$ is greater than $\frac{1}{4}$ because the fractions have the same numerator, so the fraction with the smaller denominator is the larger fraction. Now we can check if $\frac{1}{3}$ is less than $\frac{3}{8}$ by changing both fractions to have a denominator of 24. $\frac{1}{3}$ becomes $\frac{8}{24}$ and $\frac{3}{8}$ becomes $\frac{9}{24}$. Since $\frac{8}{24}$ is less than $\frac{9}{24}$, $\frac{1}{3}$ is in between $\frac{1}{4}$ and $\frac{3}{8}$. **Answer choice (B) is the correct answer.**
6. For this problem, all of the fractions' numerators are one less than the denominators. This means that the fraction with the smallest denominator is the smallest fraction. The smaller the denominator, the larger the pieces. The fraction $\frac{2}{3}$ is $\frac{1}{3}$ away from a whole, whereas the other fractions are $\frac{1}{9}$, $\frac{1}{6}$, and $\frac{1}{8}$, away from a whole. Since $\frac{1}{3}$ is greater than $\frac{1}{9}$, $\frac{1}{6}$, and $\frac{1}{8}$, $\frac{2}{3}$ is further away from a whole than the other numbers, so $\frac{2}{3}$ is the smallest fraction. **Answer choice (C) is the correct answer.**
7. We are looking for a fraction that is greater than $\frac{1}{3}$ and less than $\frac{3}{7}$. Answer choice (D) is equal to $\frac{1}{3}$ if you simplify it, so we can cross out answer choice (D). Answer choice (C) is equal to $\frac{1}{4}$ if you simplify it which is smaller than $\frac{1}{3}$ since both fractions have the same numerator, so the fraction with the larger denominator is smaller (larger denominator means smaller pieces). We can cross out answer choice (C). Answer choice (B) is greater than $\frac{3}{7}$ because we know $\frac{3}{6}$ is a half, so $\frac{3}{7}$ is smaller than a half, so we can cross out answer choice (B). **We are left with answer choice (A) as the correct answer.**
8. First we want to change answer choice (B) into $1\frac{5}{6}$ and answer choice (D) into $1\frac{1}{2}$. Since all of the fractions have 1 as the whole number, we just compare the fraction part of each mixed number.

$2/3$, $3/4$, and $5/6$ are all greater than $1/2$, so we know that $1\ 1/2$ is the smallest fraction. **Answer choice (D) is the correct answer.**

9. When approaching this problem, first determine which fractions are less than a half, which fractions are greater than a half, and which fractions equal a half. $3/7$ and $1/3$ are both smaller than one half, and $6/11$ and $3/5$ are both greater than a half. Since we are looking for the *greatest* fraction, we can cross out answer choices (A) and (C). To compare $6/11$ and $3/5$ we can change $3/5$ into $6/10$ by multiplying the numerator and denominator by 2. $6/10$ is greater than $6/11$ because both fractions have the same numerator, so the fraction with the smaller denominator is the larger fraction (smaller denominator means larger pieces). **Answer choice (D) is the correct answer.**
10. This problem is tough and it's difficult to use strategies to get rid of answer choices. If you can't immediately tell if any of the fractions don't fall in between $2/5$ and $3/5$, you'll need to check each answer choice until you find the correct answer. Start with answer choice (B) because it's easy to change $2/5$ and $3/5$ into fractions with a denominator of 10. $2/5$ becomes $4/10$ and $3/5$ becomes $6/10$. Answer choice (B) is incorrect because $3/10$ is smaller than $4/10$. If you check answer choice (C) next, you can change it into $20/45$ and change the two original fractions into $18/45$ and $27/45$. **$20/45$ is between $18/45$ and $27/45$, so answer choice (C) is the correct answer.**

Comparing Fractions Practice Set 2

1. For this problem, all of the fractions' numerators are one less than the denominators. This means that the fraction with the largest denominator is the largest fraction. The larger the denominator, the smaller the pieces. The fraction $6/7$ is $1/7$ away from a whole, whereas the other fractions are $1/6$, $1/5$, and $1/4$, away from a whole. Since $1/7$ is less than $1/6$, $1/5$, and $1/4$, $6/7$ is closer to a whole than the other numbers, so $6/7$ is the largest fraction. **Answer choice (D) is the correct answer.**
2. When approaching this problem, first determine which fractions are less than a half, which fractions are greater than a half, and which fractions equal a half. Answer choice (B) is less than half, answer choice (D) is equal to half, and answer choices (A) and (C) are greater than half. Since we are looking for the *smallest* fraction, and answer choice (B) is the only answer that is less than half, we know it must be the smallest. **Answer choice (B) is the correct answer.**
3. When approaching this problem, first determine which fractions are less than a half, which fractions are greater than a half, and which fractions equal a half. $3/7$ is smaller than one half and $7/11$, $5/9$, and $6/10$ are all greater than a half. Since we are looking for the *greatest* fraction, we can cross out answer choices (B). When comparing $7/11$, $5/9$ and $6/10$, realize that each fraction is 4 parts away from a whole. $7/11$ is $4/11$ away from a whole, $5/9$ is $4/9$ away from a whole, and $6/10$ is $4/10$ away from a whole. We know that $4/11$ is smaller than $4/10$ and $4/9$ because denominators are smaller and the numerators are equal, so we know that $7/11$ is closer to a whole than $5/9$ and $6/10$ and is in turn the largest fraction. **Answer choice (A) is the correct answer.**

4. We are looking for a fraction that is greater than $\frac{4}{9}$ and less than $\frac{4}{7}$. $\frac{4}{9}$ is a little bit smaller than a half and $\frac{4}{7}$ is a little bit larger than a half, so we know that $\frac{1}{2}$ must be between them. We can also change $\frac{1}{2}$ to $\frac{4}{8}$ by multiplying the numerator and denominator by 4. Doing this we can see that $\frac{4}{8}$ is between $\frac{4}{9}$ and $\frac{4}{7}$. **Answer choice (D) is the correct answer.**
5. When approaching this problem, first determine which fractions are less than a half, which fractions are greater than a half, and which fractions equal a half. Answer choices (A), (B), and (D) are all less than half and answer choice (C) is greater than half. Since we are looking for the *smallest* fraction, and answer choice (C) is greater than half, we can cross it out. We can then change $\frac{2}{5}$ to $\frac{4}{10}$ by multiplying both the numerator and denominator by 2. $\frac{4}{10}$ is larger than $\frac{3}{10}$ because the denominators are the same so the higher numerator is the larger fraction, so we can cross out answer choice (D). When comparing $\frac{5}{12}$ and $\frac{3}{10}$ realize that both fractions are 7 parts away from a whole. $\frac{5}{12}$ is $\frac{7}{12}$ away from a whole and $\frac{3}{10}$ is $\frac{7}{10}$ away from a whole. We know that $\frac{7}{10}$ is larger than $\frac{7}{12}$ because the fractions have the same numerator so the fraction with the smaller denominator is the larger fraction. This means that $\frac{3}{10}$ is farther away from a whole than $\frac{5}{12}$ so it is the smaller fraction. **Answer choice (B) is the correct answer.**
6. Since all of the fractions have 2 as the whole number, we just compare the fraction part of each mixed number. $\frac{1}{6}$ and $\frac{4}{9}$ are both less than a half and because we are looking for the *largest* fraction we can cross out answer choices (C) and (D). The remaining two fractions are $\frac{4}{7}$ and $\frac{6}{11}$. To find out which is larger, find the LCM of the denominators and rewrite each fraction. The LCM of 7 and 11 is 77, so $\frac{4}{7}$ becomes $\frac{44}{77}$ and $\frac{6}{11}$ becomes $\frac{42}{77}$. $\frac{44}{77}$ is the larger of the two so $\frac{4}{7}$ is larger than $\frac{6}{11}$. **Answer choice (A) is the correct answer.**
7. We are looking for a fraction that is greater than $\frac{3}{8}$ and less than $\frac{1}{2}$. Answer choice (A) is equal to $\frac{1}{2}$ if you simplify it, so we can cross out answer choice (A). Answer choice (B) is greater than $\frac{1}{2}$ because we know that $\frac{2}{4}$ is equal to $\frac{1}{2}$ and $\frac{3}{4}$ is greater than $\frac{2}{4}$, so we can cross out answer choice (B). Answer choice (D) is also greater than $\frac{1}{2}$ because half of 11 is 5.5 so $\frac{6}{11}$ is slightly greater than $\frac{1}{2}$. We can cross out answer choice (D). **We are left with answer choice (C) as the correct answer. This makes sense because we know that $\frac{3}{7}$ is greater than $\frac{3}{8}$ because it has a smaller denominator (smaller denominator means larger pieces) and we know that $\frac{3}{7}$ is slightly smaller than $\frac{1}{2}$ because half of 7 is 3.5.**
8. We are looking for a fraction that is greater than $\frac{2}{7}$ and less than $\frac{4}{9}$. Answer choice (A) is smaller than $\frac{2}{7}$. We know this because $\frac{1}{4}$ can be written as $\frac{2}{8}$ and $\frac{2}{7}$ is larger than $\frac{2}{8}$ because when fractions have the same numerator, the fraction with the smaller denominator is the larger fraction, so we can cross out answer choice (A). Answer choice (B) is larger than $\frac{4}{9}$. We know this because $\frac{1}{2}$ can be written as $\frac{4}{8}$ and $\frac{4}{8}$ is larger than $\frac{4}{9}$, so we can cross out answer choice (B). Answer choice (D) is greater than one half which means it is also greater than $\frac{4}{9}$, so we can cross out answer choice (D). **We are left with answer choice (C) as the correct answer. This makes sense because $\frac{1}{3}$ is equal to $\frac{2}{6}$, which we know is greater than $\frac{2}{7}$. $\frac{1}{3}$ is also equal to $\frac{4}{12}$, which we know is smaller than $\frac{4}{9}$.**

9. When approaching this problem, first determine which fractions are less than a half, which fractions are greater than a half, and which fractions equal a half. Answer choice (D) is less than half, answer choice (B) equals a half, and answer choices (A) and (C) are greater than a half. Since we are looking for the *smallest* fraction, and answer choice (D) is the only answer that is less than half, we know it must be the smallest. **Answer choice (D) is the correct answer.**
10. We are looking for a fraction that is greater than $3\frac{3}{5}$ and less than $3\frac{4}{5}$. We want to start by converting each answer choice into a mixed number. Answer choice (A) becomes $3\frac{7}{10}$, answer choice (B) becomes $3\frac{8}{10}$, answer choice (C) becomes $3\frac{1}{2}$, and answer choice (D) becomes $3\frac{5}{6}$. Since all of the fractions have 3 as the whole number, we just compare the fraction part of each mixed number. $\frac{8}{10}$ is equal to $\frac{4}{5}$, so we can cross out answer choice (B). $\frac{1}{2}$ is less than $\frac{3}{5}$, so we can cross out answer choice (C). $\frac{5}{6}$ is greater than $\frac{4}{5}$ because each fraction is one part away from a whole and we know that the larger the denominator the smaller the pieces, so $\frac{5}{6}$ is closer to a whole than $\frac{4}{5}$. This means we can cross out answer choice (D). **We are left with answer choice (A) as the correct answer. This makes sense because if we convert the fractions in the original problem from $3\frac{3}{5}$ and $3\frac{4}{5}$ to $3\frac{6}{10}$ and $3\frac{8}{10}$ respectively, we can see that $3\frac{7}{10}$ fits in between.**
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Fractions of Numbers Practice Set 1

1. When finding fractions *of* numbers, multiply the fraction by the number. In math, *of* means multiplication. To multiply $\frac{1}{5}$ and 60, change 60 into $\frac{60}{1}$. Now multiply straight across and you get $\frac{60}{5}$. Divide 60 by 5 which is equal to 12. A shortcut is to also understand that $\frac{1}{5}$ of a number means split the number into 5 groups and take 1 group, so you could divide 60 by 5 initially. **Answer choice (B) is the correct answer.**
2. When finding fractions *of* numbers, multiply the fraction by the number. In math, *of* means multiplication. To multiply $\frac{1}{3}$ and 39, change 39 into $\frac{39}{1}$. Now multiply straight across and you get $\frac{39}{3}$. Divide 39 by 3 which is equal to 13. A shortcut is to also understand that $\frac{1}{3}$ of a number means split the number into 3 groups and take 1 group, so you could divide 39 by 3 initially. **Answer choice (B) is the correct answer.**
3. When finding fractions *of* numbers, multiply the fraction by the number. In math, *of* means multiplication. To multiply $\frac{1}{12}$ and 24, change 24 into $\frac{24}{1}$. Now multiply straight across and you get $\frac{24}{12}$. Divide 24 by 12 which is equal to 2. A shortcut is to also understand that $\frac{1}{12}$ of a number means split the number into 12 groups and take 1 group, so you could divide 24 by 12 initially. **Answer choice (A) is the correct answer.**
4. When finding fractions *of* numbers, multiply the fraction by the number. In math, *of* means multiplication. To multiply $\frac{1}{7}$ and 42, change 42 into $\frac{42}{1}$. Now multiply straight across and you get $\frac{42}{7}$. Divide 42 by 7 which is equal to 6. A shortcut is to also understand that $\frac{1}{7}$ of a number

means split the number into 7 groups and take 1 group, so you could divide 42 by 7 initially. **Answer choice (A) is the correct answer.**

5. When finding fractions *of* numbers, multiply the fraction by the number. In math, *of* means multiplication. To multiply $\frac{1}{2}$ and 98, change 98 into $\frac{98}{1}$. Now multiply straight across and you get $\frac{98}{2}$. Divide 98 by 2 which is equal to 49. A shortcut is to also understand that $\frac{1}{2}$ of a number means split the number into 2 groups and take 1 group, so you could divide 98 by 2 initially. **Answer choice (D) is the correct answer.**
6. When finding fractions *of* numbers, multiply the fraction by the number. In math, *of* means multiplication. To multiply $\frac{2}{5}$ and 25, change 25 into $\frac{25}{1}$. Now multiply straight across or cross reduce first. You can cross reduce the 5 and 25 by dividing both by 5. Now we have $\frac{2}{1}$ times $\frac{5}{1}$. Multiply straight across and get $\frac{10}{1}$ which equals 10. A shortcut is to also understand that $\frac{2}{5}$ of a number means split the number into 5 groups and take 2 of them. If you divide 25 into 5 groups, each group has 5. Two of those groups equals 10. **Answer choice (B) is the correct answer.**
7. When finding fractions *of* numbers, multiply the fraction by the number. In math, *of* means multiplication. To multiply $\frac{3}{4}$ and 44, change 44 into $\frac{44}{1}$. Now multiply straight across or cross reduce first. You can cross reduce 4 and 44 by dividing both by 4. Now we have $\frac{3}{1}$ times $\frac{11}{1}$. Multiply across to get $\frac{33}{1}$ which equals 33. A shortcut is to also understand that $\frac{3}{4}$ of a number means split the number into 4 groups and take 3 of those groups. If you divide 44 into 4 groups, each group has 11, so three of those groups equals 33. **Answer choice (C) is the correct answer.**
8. When finding fractions *of* numbers, multiply the fraction by the number. In math, *of* means multiplication. To multiply $\frac{4}{7}$ and 280, change 280 into $\frac{280}{1}$. Now multiply straight across or cross reduce first. You can cross reduce 7 and 280 by dividing both by 7. Now we have $\frac{4}{1}$ times $\frac{40}{1}$. Multiply across to get $\frac{160}{1}$ which equals 160. A shortcut is to also understand that $\frac{4}{7}$ of a number means split the number into 7 groups and take 4 of those groups. If you divide 280 into 7 groups, each group has 40, so four of those groups equals 160. **Answer choice (D) is the correct answer.**
9. When finding fractions *of* numbers, multiply the fraction by the number. In math, *of* means multiplication. To multiply $\frac{5}{6}$ and 54, change 54 into $\frac{54}{1}$. Now multiply straight across or cross reduce first. You can cross reduce 6 and 54 by dividing both by 6. Now we have $\frac{5}{1}$ times $\frac{9}{1}$. Multiply across to get $\frac{45}{1}$ which equals 45. A shortcut is to also understand that $\frac{5}{6}$ of a number means split the number into 6 groups and take 5 of those groups. If you divide 54 into 6 groups, each group has 9, so five of those groups equals 45. **Answer choice (C) is the correct answer.**
10. When finding fractions *of* numbers, multiply the fraction by the number. In math, *of* means multiplication. To multiply $\frac{9}{10}$ and 300, change 300 into $\frac{300}{1}$. Now multiply straight across or cross reduce first. You can cross reduce 10 and 300 by dividing both by 10. Now we have $\frac{9}{1}$ times $\frac{30}{1}$. Multiply across to get $\frac{270}{1}$ which equals 270. A shortcut is to also understand that $\frac{9}{10}$ of a number means split the number into 10 groups and take 9 of those groups. If you divide 300 into 10

groups, each group has 30, so nine of those groups equals 270. **Answer choice (C) is the correct answer.**

Fractions of Numbers Practice Set 2

1. When finding fractions *of* numbers, multiply the fraction by the number. In math, *of* means multiplication. To multiply $\frac{1}{4}$ and 52, change 52 into $\frac{52}{1}$. Now multiply straight across and you get $\frac{52}{4}$. Divide 52 by 4 which is equal to 13. A shortcut is to also understand that $\frac{1}{4}$ of a number means split the number into 4 groups and take 1 group, so you could divide 52 by 4 initially. **Answer choice (B) is the correct answer.**
2. When finding fractions *of* numbers, multiply the fraction by the number. In math, *of* means multiplication. To multiply $\frac{1}{9}$ and 81, change 81 into $\frac{81}{1}$. Now multiply straight across and you get $\frac{81}{9}$. Divide 81 by 9 which is equal to 9. A shortcut is to also understand that $\frac{1}{9}$ of a number means split the number into 9 groups and take 1 group, so you could divide 81 by 9 initially. **Answer choice (A) is the correct answer.**
3. When finding fractions *of* numbers, multiply the fraction by the number. In math, *of* means multiplication. To multiply $\frac{1}{6}$ and 12, change 12 into $\frac{12}{1}$. Now multiply straight across and you get $\frac{12}{6}$. Divide 12 by 6 which is equal to 2. A shortcut is to also understand that $\frac{1}{6}$ of a number means split the number into 6 groups and take 1 group, so you could divide 12 by 6 initially. **Answer choice (A) is the correct answer.**
4. When finding fractions *of* numbers, multiply the fraction by the number. In math, *of* means multiplication. To multiply $\frac{1}{8}$ and 24, change 24 into $\frac{24}{1}$. Now multiply straight across and you get $\frac{24}{8}$. Divide 24 by 8 which is equal to 3. A shortcut is to also understand that $\frac{1}{8}$ of a number means split the number into 8 groups and take 1 group, so you could divide 24 by 8 initially. **Answer choice (B) is the correct answer.**
5. When finding fractions *of* numbers, multiply the fraction by the number. In math, *of* means multiplication. To multiply $\frac{1}{11}$ and 88, change 88 into $\frac{88}{1}$. Now multiply straight across and you get $\frac{88}{11}$. Divide 88 by 11 which is equal to 8. A shortcut is to also understand that $\frac{1}{11}$ of a number means split the number into 11 groups and take 1 group, so you could divide 88 by 11 initially. **Answer choice (B) is the correct answer.**
6. When finding fractions *of* numbers, multiply the fraction by the number. In math, *of* means multiplication. To multiply $\frac{2}{3}$ and 36, change 36 into $\frac{36}{1}$. Now multiply straight across or cross reduce first. You can cross reduce the 3 and 36 by dividing both by 3. Now we have $\frac{2}{1}$ times $\frac{12}{1}$. Multiply straight across and get $\frac{24}{1}$ which equals 24. A shortcut is to also understand that $\frac{2}{3}$ of a number means split the number into 3 groups and take 2 of them. If you divide 36 into 3 groups, each group has 12. Two of those groups equals 24. **Answer choice (A) is the correct answer.**

7. When finding fractions *of* numbers, multiply the fraction by the number. In math, *of* means multiplication. To multiply $\frac{4}{5}$ and 45, change 45 into $\frac{45}{1}$. Now multiply straight across or cross reduce first. You can cross reduce the 5 and 45 by dividing both by 5. Now we have $\frac{4}{1}$ times $\frac{9}{1}$. Multiply straight across and get $\frac{36}{1}$ which equals 36. A shortcut is to also understand that $\frac{4}{5}$ of a number means split the number into 5 groups and take 4 of them. If you divide 45 into 5 groups, each group has 9. Four of those groups equals 36. **Answer choice (D) is the correct answer.**
8. When finding fractions *of* numbers, multiply the fraction by the number. In math, *of* means multiplication. To multiply $\frac{5}{9}$ and 18, change 18 into $\frac{18}{1}$. Now multiply straight across or cross reduce first. You can cross reduce the 9 and 18 by dividing both by 9. Now we have $\frac{5}{1}$ times $\frac{2}{1}$. Multiply straight across and get $\frac{10}{1}$ which equals 10. A shortcut is to also understand that $\frac{5}{9}$ of a number means split the number into 9 groups and take 5 of them. If you divide 18 into 9 groups, each group has 2. Five of those groups equals 10. **Answer choice (B) is the correct answer.**
9. When finding fractions *of* numbers, multiply the fraction by the number. In math, *of* means multiplication. To multiply $\frac{7}{12}$ and 60, change 60 into $\frac{60}{1}$. Now multiply straight across or cross reduce first. You can cross reduce the 12 and 60 by dividing both by 12. Now we have $\frac{7}{1}$ times $\frac{5}{1}$. Multiply straight across and get $\frac{35}{1}$ which equals 35. A shortcut is to also understand that $\frac{7}{12}$ of a number means split the number into 12 groups and take 7 of them. If you divide 60 into 12 groups, each group has 5. Seven of those groups equals 35. **Answer choice (C) is the correct answer.**
10. When finding fractions *of* numbers, multiply the fraction by the number. In math, *of* means multiplication. To multiply $\frac{5}{8}$ and 32, change 32 into $\frac{32}{1}$. Now multiply straight across or cross reduce first. You can cross reduce the 8 and 32 by dividing both by 8. Now we have $\frac{5}{1}$ times $\frac{4}{1}$. Multiply straight across and get $\frac{20}{1}$ which equals 20. A shortcut is to also understand that $\frac{5}{8}$ of a number means split the number into 8 groups and take 5 of them. If you divide 32 into 8 groups, each group has 4. Five of those groups equals 20. **Answer choice (B) is the correct answer.**
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Fraction Word Problems Practice Set 1

1. We want to find how much longer Liam worked on Tuesday than Wednesday, so we want to find the *difference* between the two numbers. If you subtract $2\frac{4}{5}$ from $3\frac{1}{2}$, you get $\frac{7}{10}$ hours. **Answer choice (B) is the correct answer.**
2. We want to find what fraction of the school is made up of band members, so we are trying to answer the question, “80 is what fraction of 360”. To find this, create the fraction $\frac{80}{360}$ and simplify. If you divide the top and bottom by 40, you get $\frac{2}{9}$. **Answer choice (A) is the correct answer.**
3. First, find how much money you spend by finding $\frac{2}{9}$ of 360. To find $\frac{2}{9}$ of 360, multiply $\frac{2}{9}$ and 360 to get 80. Since you spent \$80 and you started with \$360, subtract \$80 from \$360 to find how

much money you have left. **\$360 minus \$80 equals \$280, so answer choice (D) is the correct answer.**

4. We want to find how much pizza Danielle and Whitney ate *all together*, so we want to add the two fractions. **$2/5$ plus $3/7$ equals $29/35$, so answer choice (C) is the correct answer.**
5. We want to determine what fraction of the paper Claude and Veronica have left, so first we need to determine what fraction of the paper they have completed. To find this, we add the fraction of the paper that each person has written. $3/8$ plus $4/9$ equals $59/72$. To find the fraction of the paper they have left, subtract $59/72$ from 1 to get $13/72$. **Answer choice (B) is the correct answer.**
6. We know $3/5$ of the 45 dogs have spots, so we want to find $3/5$ of 45. To find $3/5$ of 45, multiply $3/5$ and 45 to get 27. **Answer choice (C) is the correct answer.**
7. Sam wants to cut, or divide, his 60 inches of ribbon into pieces that are $2/3$ inches long, so we need to divide 60 by $2/3$. **60 divided by $2/3$ equals 90, so answer choice (C) is the correct answer.**
8. First, find how much money Taylor made by multiplying \$18 per hour times 5 hours. 18 times 5 equals \$90. Next, we know Corinne made twice as much as Nick, so multiply \$180 by 2 to get that Corinne made \$360. Next, add the amount each person made: $\$180 + \$90 + \$360 = \630 . Finally, we know each person keeps $1/3$ of the total, so find $1/3$ of \$630 by multiplying $1/3$ and 630. **$1/3$ times 630 equals 210, so answer choice (B) is the correct answer.**
9. First, find how many pieces of candy Fred has left by subtracting 50 from 125 which equals 75. Next, we want to answer the question, “75 is what fraction of 125.” To do this, set up the fraction $75/125$ and simplify. Divide the numerator and denominator by 25 to get $3/5$. **Answer choice (C) is the correct answer.**
10. Mrs. Reynolds wants to *split* the cake between five children. The word *split* means divide, so we need to divide $7/8$ by 5. **$7/8$ divided by 5 equals $7/40$, so answer choice (A) is the correct answer.**

Fraction Word Problems Practice Set 2

1. We want to determine what fraction of the lawn Maud and Joseph have left, so first we need to determine what fraction of the lawn they have completed. To find this, we add the fraction of the lawn that each person has mowed. $1/6$ plus $5/8$ equals $19/24$. To find the fraction of the lawn they have left, subtract $19/24$ from 1 to get $5/24$. **Answer choice (A) is the correct answer.**
2. We want to find how many *total* cups of water Mr. Miller drank, so we want to add the two fractions. **$6\ 3/4$ plus $7\ 1/2$ equals $14\ 1/4$, so answer choice (B) is the correct answer.**
3. We want to determine what fraction of their money Mr. and Mrs. Vile spent, so first we have to add the \$200 Mrs. Vile Spent and the \$400 Mr. Vile spent to get \$600 spent between the two of them.

Now to find what fraction of their money that they spent, we have to answer the question “\$600 is what fraction of \$1800”. To find this, create the fraction $600/1800$ and simplify. If you divide the top and bottom by 600, you get $1/3$. **Answer choice (D) is the correct answer.**

4. We know that $2/3$ of the 9 hour school day is spent in academic classes, so we want to find $2/3$ of 9. To find $2/3$ of 9, multiply $2/3$ and 9 to get 6. **Answer choice (C) is the correct answer.**
 5. Kim wants to cut, or divide, her 40 cm of string into pieces that are $4/5$ cm long, so we need to divide 40 by $4/5$. **40 divided by $4/5$ equals 50, so answer choice (D) is the correct answer.**
 6. We want to find the *total* number of miles Devin ran or the miles he ran today plus the miles he ran yesterday. We know how many miles he ran today and we know that he ran $1\frac{3}{10}$ fewer miles yesterday than he ran today. To find the number of miles Devin ran yesterday subtract $1\frac{3}{10}$ from $7\frac{1}{5}$ to get $5\frac{9}{10}$. Now to find the total number of miles Devin ran, add the miles he ran today, $7\frac{1}{5}$, plus the miles he ran yesterday, $5\frac{9}{10}$, to get $13\frac{1}{10}$. **Answer choice (C) is the correct answer.**
 7. First, find how long the movie marathon lasted by adding 90 plus 90 plus 10 plus 10 plus 10, which equals 210. Next, we know that Vanessa slept through $1/5$ of the marathon, but the question is asking how many minutes she was *awake*. If Vanessa was asleep for $1/5$ of the marathon, that means she was awake for $4/5$ of the marathon because 1 minus $1/5$ equals $4/5$. Finally to find how many minutes Vanessa was awake, multiply $4/5$ times 210 to get 168. **Answer choice (D) is the correct answer.**
 8. We want to find how many pieces of pizza are left, so first we have to find how many slices of pizza you and your friend ate. To find this, multiply $3/4$ times 16 to get 12. Now, subtract 12 slices from 16 slices to get 4 slices. **Answer choice (A) is the correct answer.**
 9. In this problem we are looking for how many slices of pizza were in the whole pizza. We know that Sofia ate 6 slices which was $3/7$ of the whole pizza. $3/7$ is equal to $6/14$, so we could say Sofia ate $6/14$ of the pizza. This is the same as saying Sofia ate 6 out of 14 slices, so there are 14 total slices in the pizza. **Answer choice (B) is the correct answer.**
 10. To find what fraction of students chose green or blue we first have to find how many total students voted in the survey. 24 plus 20 plus 12 plus 16 equals 72 total students surveyed. Now we have to find how many students voted for either green or blue, so we add 16 students who voted for green plus 24 students who voted for blue to get 40 students total. The fraction of students who voted for green or blue is just the total number of students who voted for green or blue over the total number of students who voted in the survey, or $40/72$. Simplifying this by dividing the numerator and denominator by 8 gives us $5/9$. **Answer choice (C) is correct.**
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Decimals Practice Set 1

1. When adding decimals, line up the decimal point and add down like you would with whole numbers. **If you do this, you'll get answer choice (A) as the correct answer.** To see a step-by-step solution of this problem, follow this link and type in the problem: [how to solve operations with decimals](#)
2. When multiplying decimals, ignore the decimal points and multiply the two numbers: 8 times 7 equals 56. To determine where the decimal point goes, count up the total number of digits after the decimal point in the original numbers which is 1. This means we want 1 digit after the decimal point in our number, so our answer is 5.6. **Answer choice (D) is the correct answer.** To see a step-by-step solution of this problem, follow this link and type in the problem: [how to solve operations with decimals](#)
3. When subtracting decimals, line up the decimal point and subtract down like you would with whole numbers. **If you do this, you'll get answer choice (B) as the correct answer.** To see a step-by-step solution of this problem, follow this link and type in the problem: [how to solve operations with decimals](#)
4. When multiplying decimals, ignore the decimal points and multiply the two numbers: 3 times 6 equals 18. To determine where the decimal point goes, count up the total number of digits after the decimal point in the original numbers which is 2. This means we want 2 digits after the decimal point in our number, so our answer is 0.18. **Answer choice (C) is the correct answer.** To see a step-by-step solution of this problem, follow this link and type in the problem: [how to solve operations with decimals](#)
5. To divide decimals, move the decimal point of the divisor (2nd number) all the way to the right. We move the decimal point in 0.04 to the right twice to get 4. Now, do the same thing to the dividend (1st number). We move the decimal point in 0.59 to the right twice to get 59. Now divide 59 by 4 using long division and you get 14.75. **Answer choice (D) is the correct answer.** To see a step-by-step solution of this problem, follow this link and type in the problem: [how to solve operations with decimals](#)
6. Stack all three numbers, lining up the decimal points, and add straight down. If you do this, you should get 56.43. **Answer choice (B) as the correct answer.** To see a step-by-step solution of this problem, follow this link and type in the problem: [how to solve operations with decimals](#)
7. We can't subtract three numbers at the same time, so subtract 13.62 from 90 by adding up the decimal points and subtracting down. If you do this, you should get 76.38. Next, subtract 4.91 from 76.38 by lining up the decimal points and subtracting down. **If you do this, you should get 71.47, so answer choice (A) is the correct answer.** To see a step-by-step solution of this problem, follow this link and type in the problem: [how to solve operations with decimals](#)

8. Remember PEMDAS for this problem. Start with subtraction, so subtract 15 from 81.245 by lining up the decimal points and subtraction down. If you do this, you should get 66.245. Next, add 3.1 to 66.245 by lining up the decimals and adding down. **If you do this, you should get 69.345, so answer choice (B) is the correct answer.** To see a step-by-step solution of this problem, follow this link and type in the problem: [how to solve operations with decimals](#)
9. To divide decimals, move the decimal point of the divisor (2nd number) all the way to the right. We move the decimal point in 0.9 to the right once to get 9. Now, do the same thing to the dividend (1st number). We move the decimal point in 73.8 to the right once to get 738. Now divide 738 by 9 using long division and you get 82. **Answer choice (D) is the correct answer.** To see a step-by-step solution of this problem, follow this link and type in the problem: [how to solve operations with decimals](#)
10. When multiplying decimals, ignore the decimal points and multiply the two numbers: 1612 times 123 equals 198,276. To determine where the decimal point goes, count up the total number of digits after the decimal point in the original numbers which is 2. This means we want 2 digits after the decimal point in our number, so our answer is 1,982.76. **Answer choice (C) is the correct answer.** To see a step-by-step solution of this problem, follow this link and type in the problem: [how to solve operations with decimals](#)

Decimals Practice Set 2

1. When multiplying decimals, ignore the decimal points and multiply the two numbers: 4 times 7 equals 28. To determine where the decimal point goes, count up the total number of digits after the decimal point in the original numbers which is 1. This means we want 1 digit after the decimal point in our number, so our answer is 2.8. **Answer choice (D) is the correct answer.** To see a step-by-step solution of this problem, follow this link and type in the problem: [how to solve operations with decimals](#)
2. To divide decimals, move the decimal point of the divisor (2nd number) all the way to the right. Because the decimal point is already all the way to the right in the number 12 we can just divide 28.8 by 12 using long division. When you do this you get 2.4. **Answer choice (C) is the correct answer.** To see a step-by-step solution of this problem, follow this link and type in the problem: [how to solve operations with decimals](#)
3. When subtracting decimals, line up the decimal point and subtract down like you would with whole numbers. **If you do this, you'll get answer choice (B) as the correct answer.** To see a step-by-step solution of this problem, follow this link and type in the problem: [how to solve operations with decimals](#)
4. When adding decimals, line up the decimal point and add down like you would with whole numbers. **If you do this, you'll get answer choice (D) as the correct answer.** To see a step-by-step solution of this problem, follow this link and type in the problem: [how to solve operations with decimals](#)

5. To divide decimals, move the decimal point of the divisor (2nd number) all the way to the right. We move the decimal point in 0.05 to the right twice to get 5. Now, do the same thing to the dividend (1st number). We move the decimal point in 0.79 to the right once to get 79. Now divide 79 by 5 using long division and you get 15.8. **Answer choice (D) is the correct answer.** To see a step-by-step solution of this problem, follow this link and type in the problem: [how to solve operations with decimals](#)
6. When multiplying decimals, ignore the decimal points and multiply the two numbers: 9 times 5 equals 45. To determine where the decimal point goes, count up the total number of digits after the decimal point in the original numbers which is 2. This means we want 2 digits after the decimal point in our number, so our answer is .45. **Answer choice (C) is the correct answer.** To see a step-by-step solution of this problem, follow this link and type in the problem: [how to solve operations with decimals](#)
7. We can't subtract three numbers at the same time, so subtract 70 from 82.3 by adding up the decimal points and subtracting down. If you do this, you should get 12.3. Next, subtract 6.18 from 12.3 by lining up the decimal points and subtracting down. **If you do this, you should get 6.12, so answer choice (A) is the correct answer.** To see a step-by-step solution of this problem, follow this link and type in the problem: [how to solve operations with decimals](#)
8. To divide decimals, move the decimal point of the divisor (2nd number) all the way to the right. We move the decimal point in 0.3 to the right once to get 3. Now, do the same thing to the dividend (1st number). We move the decimal point in 1.725 to the right once to get 17.25. Now divide 17.25 by 3 using long division and you get 5.75. **Answer choice (C) is the correct answer.** To see a step-by-step solution of this problem, follow this link and type in the problem: [how to solve operations with decimals](#)
9. When multiplying decimals, ignore the decimal points and multiply the two numbers: 57 times 91.2 equals 5,198.4. To determine where the decimal point goes, count up the total number of digits after the decimal point in the original numbers which is 3. This means we want 3 digits after the decimal point in our number, so our answer is 51.984. **Answer choice (B) is the correct answer.** To see a step-by-step solution of this problem, follow this link and type in the problem: [how to solve operations with decimals](#)
10. Remember PEMDAS for this problem. Start with addition, so add 9.1 to 43.23 by lining up the decimal points and adding down. If you do this, you should get 52.33. Next, subtract 25.97 from 52.33 by lining up the decimals and subtracting down. **If you do this, you should get 26.36, so answer choice (A) is the correct answer.** To see a step-by-step solution of this problem, follow this link and type in the problem: [how to solve operations with decimals](#)
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Decimals Word Problems Practice Set 1

1. Vivian has 124.8 inches of string and needs to use 5.2 inches of string for each bracelet. We need to see how many 5.2 inch pieces of string we can cut from 124.8 inches, so we divide 124.8 by 5.2 to get 24. **Answer choice (C) is the correct answer.**
2. Find the total amount Nikhil spent on apples by multiplying the 6 apples he bought by the price of each apple, \$1.15. 6 times \$1.15 equals \$6.90 spent on apples. Next, find the total amount Nikhil spent on oranges by multiplying the 4 oranges he bought by the price of each orange, \$0.82. 4 times \$0.82 equals \$3.28 spent on oranges. Finally, add the amount he spent on apples and the amount he spent on oranges: \$6.90 plus \$3.28 equals \$10.18. **Answer choice (C) is the correct answer.**
3. Nina weighs 13.94 *more* pounds than Johnson, so Johnson weighs 13.94 *fewer* pounds than Nina. To find Johnson’s weight, subtract 13.94 pounds from Nina’s weight of 145.72 pounds: 145.72 minus 13.94 equals 131.78 pounds. **Answer choice (A) is the correct answer.**
4. Determine how far away each answer choice is from 3 by finding the difference between the number and 3. For answer choice (A), 3 minus 2.98 equals 0.02. For answer choice (B), 3 minus 2.89 equals 0.11. For answer choice (C), 3 minus 2.9 equals 0.1. For answer choice (D), 3.01 minus 3 equals 0.01. Since 0.01 is the *smallest* number, this means answer choice (D) is closest in value to 3. **Answer choice (D) is the correct answer.**
5. First, find how many miles Mackenzie has run so far by adding 6.8 and 2.6 to get 9.4 miles. Now find how many *more* miles Mackenzie needs to run by subtracting the number of miles she has already run from her goal: 14.5 minus 9.4 equals 5.1 miles. **Answer choice (A) is the correct answer.**
6. First, find the total number of hours Xavier worked by adding the 25 hours he worked last week and the 15 hours he worked this week: 25 + 15 equals 40 total hours. Now find how much money Xavier made by multiplying his hourly rate of \$9.25 by the number of hours he worked, 40: 9.25 times 40 equals \$370. **Answer choice (C) is the correct answer.**
7. If we read 0.09 out loud, we read it as “nine hundredths” because the 9 is in the hundredths place. As a fraction, nine hundredths is equal to $\frac{9}{100}$. **This means a is equal to 9, so answer choice (B) is the correct answer.**
8. First, find the total amount of money Christina spent by multiplying the 6 apples she bought by the cost per apple, \$1.35: 6 times 1.35 equals \$8.10. To find how much change she got back, subtract the cost of the apples from the amount of money she handed the cashier: \$10 minus \$8.10 equals \$1.90. **Answer choice (A) is the correct answer.**

9. We know that the product of a number and 1.5 equals 18. This means 1.5 times a number equals 18. To find the number, divide 18 by 1.5 and we get 12. Now we want to find 2.9 less than the number, so subtract 2.9 from 12 and we get 9.1. **Answer choice (B) is the correct answer.**
10. First, find how much total money Emma and Weston have by adding \$24 and \$18 to get \$42. If each gift bag costs \$1.40, to find the total number of gift bags they can buy with \$42, divide \$42 by \$1.40 to get 30 gift bags. **Answer choice (B) is the correct answer.**

Decimals Word Problems Practice Set 2

1. Find the total amount Emily spent on packs of pencils by multiplying the 4 packs of pencils she bought by the price of each pack, \$6.07. 4 times \$6.07 equals \$24.28 spent on packs of pencils. Next, find the total amount Emily spent on packs of pens by multiplying the 7 packs of pens he bought by the price of each pack, \$4.98. 7 times \$4.98 equals \$34.86 spent on packs of pens. Finally, add the amount he spent on packs of pencils and the amount he spent on packs of pens: \$24.28 plus \$34.86 equals \$59.14. **Answer choice (B) is the correct answer.**
2. Determine how far away each answer choice is from 1 by finding the difference between the number and 1. For answer choice (A), 1.009 minus 1 equals 0.009. For answer choice (B), 1 minus .99 equals 0.01. For answer choice (C), 1.1 minus 1 equals 0.1. For answer choice (D), 1.01 minus 1 equals 0.01. Since 0.009 is the *smallest* number, this means answer choice (A) is closest in value to 1. **Answer choice (A) is the correct answer.**
3. First determine how much money Rachel gives each of her children by dividing the total amount of money she started with, \$72.40, by how many children she has, 4. \$72.40 divided by 4 equals \$18.10, so each child is given \$18.10. Next figure out how much each child will have left over by subtracting \$12 from each of their \$18.10 to get \$6.10. Finally because all four children have an equal amount of money remaining and they all give it back to Rachel, multiply \$6.10 by 4 to get \$24.40. **Answer choice (C) is the correct answer.**
4. If we read 0.4 out loud, we read it as “four tenths” because the 4 is in the tenths place. As a fraction, four tenths is equal to $\frac{4}{10}$. To get the denominator to 100 we have to multiply 10 by 10, so we must do the same to the numerator. 4 times 10 is 40 so $\frac{4}{10}$ equals $\frac{40}{100}$. **This means x is equal to 40, so answer choice (C) is the correct answer.**
5. First determine how fast Steven ran the race by adding 4.78 seconds to Priyanka’s time of 39.54 seconds because she ran the race faster. 4.78 plus 39.54 equals 44.32 seconds. Next add Priyanka’s time of 39.54 plus Steven’s time of 44.32 to find the sum. 39.54 plus 44.32 equals 83.86. **Answer choice (D) is the correct answer.**
6. First, find how much total money David and Ronnie have by adding \$65 and \$25 to get \$90. If each action figure costs \$1.50, to find the total number of action figures they can buy with \$90, divide \$90 by \$1.50 to get 60 action figures. **Answer choice (A) is the correct answer.**

7. To find how many pounds Grant weighed eight weeks ago, first find out how much he lost over the eight weeks by multiplying 0.7 pounds per week by 8 weeks to get 5.6 pounds. Next add Grant's current weight of 152.8 pounds to the 5.6 pounds he lost to get 158.4 pounds. **Answer choice (D) is the correct answer.**
 8. First find how many cups of water Bianca drinks in one week by multiplying 7.6 cups of water per day by 7 days in a week to get 53.2 cups of water per week. Next, multiply 53.2 cups of water per week by 5 weeks to get 266 cups of water in 5 weeks. **Answer choice (D) is the correct answer.**
 9. To find how many total hours Sierra and Bryant drove on their road trip, simply add up the number of hours they drove each day. 4.2 hours on Friday plus 3.6 hours on Saturday plus 5.5 hours on Sunday equals 13.3 hours total. **Answer choice (B) is the correct answer.**
 10. We know that the sum of a number and 15.4 equals 40. This means 15.4 plus a number equals 40. To find the number, subtract 15.4 from 40, and we get 24.6. Now we want to divide that number by .2, so 24.6 divided by .2 equals 123. **Answer choice (C) is the correct answer.**
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Converting Decimals, Fractions, and Percents Practice Set 1

1. To change a decimal into a percent, move the decimal point *two places to the right*. If you do this, 0.5 becomes 50%. **Answer choice (D) is the correct answer.**
2. To change a decimal into a fraction, think about how you would read the decimal out loud. 1.6 is read as “one and six tenths.” As a fraction, this is $1\frac{6}{10}$ which simplifies to $1\frac{3}{5}$. **As an improper fraction, $1\frac{3}{5}$ is equal to $\frac{8}{5}$, so answer choice (C) is the correct answer.**
3. To change a decimal into a percent, move the decimal point *two places to the right*. If you do this, 0.045 becomes 4.5%. **Answer choice (C) is the correct answer.**
4. To change a decimal into a percent, move the decimal point *two places to the right*. If you do this, 2.62 becomes 262%. **Answer choice (D) is the correct answer.**
5. To change a decimal into a fraction, think about how you would read the decimal out loud. 0.08 is read as “eight hundredths.” As a fraction, this is $\frac{8}{100}$ which simplifies to $\frac{2}{25}$. **Answer choice (C) is the correct answer.**
6. To change a fraction into a percent, first change the fraction part of the mixed number into a decimal by dividing the numerator by the denominator 3 divided by 4 is 0.75, so $3\frac{3}{4}$ equals 3.75. Next, to change a decimal into a percent, move the decimal point *two places to the right*. If you do this, 3.75 becomes 375%. **Answer choice (D) is the correct answer.**

7. To change a fraction into a decimal, divide the numerator by the denominator. **17 divided by 20 equals 0.85, so answer choice (D) is the correct answer.**
8. To change a percent into a decimal, move the decimal points *two places to the left*. If you do this, 45 becomes 0.45. **Answer choice (B) is the correct answer.**
9. To change a percent into a fraction, put the percent over 100. 25% equals 25/100. Now simplify the fraction to 1/4. **Answer choice (C) is the correct answer.**
10. To change a fraction into a percent, first change the fraction into a decimal by dividing the numerator by the denominator. 3 divided by 8 equals 0.375, so 3/8 equals 0.375. Next, to change a decimal into a percent, move the decimal point *two places to the right*. If you do this, 0.375 becomes 37.5%. **Answer choice (A) is the correct answer.**

Converting Decimals, Fractions, and Percents Practice Set 2

1. To change a percent into a decimal, move the decimal points *two places to the left*. If you do this, 0.32 becomes 0.0032. **Answer choice (B) is the correct answer.**
2. To change a decimal into a fraction, think about how you would read the decimal out loud. 0.06 is read as “six hundredths.” As a fraction, this is 6/100 which simplifies to 3/50. **Answer choice (A) is the correct answer.**
3. To change a fraction into a decimal, divide the numerator by the denominator. **7 divided by 25 equals 0.28, so answer choice (A) is the correct answer.**
4. To change a decimal into a percent, move the decimal point *two places to the right*. If you do this, 0.072 becomes 7.2%. **Answer choice (C) is the correct answer.**
5. To change a percent into a fraction, put the percent over 100. 80% equals 80/100. Now simplify the fraction to 4/5. **Answer choice (B) is the correct answer.**
6. To change a mixed number into a decimal, change the fraction part of the mixed number into a decimal. To do this divide the numerator by the denominator. 3/10 equals .3. Now add 1 plus .3 to get 1.3. **Answer choice (D) is the correct answer.**
7. To change a percent into a fraction, put the percent over 100. 405% equals 405/100. Now write as a mixed number, 4 5/100, and simplify to 4 1/20. **Answer choice (B) is the correct answer.**
8. To change a percent into a decimal, move the decimal points *two places to the left*. If you do this, 86 becomes 0.86. **Answer choice (B) is the correct answer.**

9. To change a fraction into a percent, first change the fraction into a decimal by dividing the numerator by the denominator. 2 divided by 3 equals $0.\overline{6}$, so $\frac{2}{3}$ equals $0.\overline{6}$. Next, to change a decimal into a percent, move the decimal point *two places to the right*. If you do this, $0.\overline{6}$ becomes $66.\overline{6}\%$. **Answer choice (D) is the correct answer.**
10. To change a percent into a fraction, put the percent over 100. 75% equals $\frac{75}{100}$. Now simplify the fraction to $\frac{3}{4}$. **Answer choice (C) is the correct answer.**
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Percents Practice Set 1

1. To find 50% of 130, we need to multiply 50% and 130 because *of* in math means multiply. We CANNOT multiply percents, so first we need to change 50% into a decimal or fraction. If we change 50% into a decimal, we get 0.5. 0.5 multiplied by 130 equals 65. **Answer choice (C) is the correct answer.** A shortcut for this problem is to remember that 50% is the same as half, so to find 50% of 130 just cut it in half.
2. To find 10% of 460, we need to multiply 10% by 460 because *of* in math means multiply. We CANNOT multiply percents, so first we need to change 10% into a decimal or fraction. If we change 10% into a decimal, we get 0.1. 0.1 multiplied by 460 equals 46. **Answer choice (D) is the correct answer.** A shortcut for this problem is to remember that to find 10% of a number, we can just move the decimal point *one place to the left*.
3. To find 20% of 150, we need to multiply 20% by 150 because *of* in math means multiply. We CANNOT multiply percents, so first we need to change 20% into a decimal or fraction. If we change 20% into a decimal, we get 0.2. 0.2 multiplied by 150 equals 30. **Answer choice (A) is the correct answer.** A shortcut for this problem is to remember that 20% is the same as one-fifth, so 20% of 150 is the same as one-fifth of 150.
4. To find 15% of 40, we need to multiply 15% by 40 because *of* in math means multiply. We CANNOT multiply percents, so first we need to change 15% into a decimal or fraction. If we change 15% into a decimal, we get 0.15. 0.15 multiplied by 40 equals 6. **Answer choice (C) is the correct answer.**
5. To answer the question, “9 is what percent of 45?” instead answer the question, “9 is what *fraction* of 45?” To do this, put 9 over 45 so we get $\frac{9}{45}$. Now change that fraction into a percent. First simplify the fraction to $\frac{1}{5}$ and then divide the numerator by the denominator. 1 divided by 5 equals 0.2, so $\frac{1}{5}$ equals 0.2. Finally, change 0.2 into a percent by moving the decimal point *two places to the right*, which equals 20% . **Answer choice (B) is the correct answer.**
6. To answer the question, “what percent of 30 is 60” instead answer the question, “what *fraction* of 30 is 60” To do this, put 60 over 30 so we get $\frac{60}{30}$. Now change that fraction into a percent. First

simplify the fraction to 2. Next, change 2 into a percent by moving the decimal point *two places to the right*, which equals 200%. **Answer choice (D) is the correct answer.** A shortcut to this problem is to realize that 60 is *twice* 30 which means it is 200% of 30.

7. To answer the question, “36 is what percent of 3600?” instead answer the question, “36 is what *fraction* of 3600?” To do this, put 36 over 3600, so we get $36/3600$. Now change that fraction into a percent. First simplify the fraction to $1/100$ which equals 0.01 as a decimal. Finally, change 0.01 into a percent by moving the decimal point *two places to the right*, which equals 1%. **Answer choice (A) is the correct answer.**
8. First, change 25% into a fraction by putting it over 100 and simplifying. $25/100$ simplifies to $1/4$. Now, we are solving the problem, “7 is $1/4$ of what number?” To find this, multiple 7 by 4 to get 28. **Answer choice (A) is the correct answer.**
9. First, change 75% into a fraction by putting it over 100 and simplifying. $75/100$ simplifies to $3/4$. Now, we are solving the problem, “60 is $3/4$ of what number?” If 60 is $3/4$ of a number, then 20 is $1/4$ of the number. To find the number, multiply 20 by 4 to get 80. **Answer choice (D) is the correct answer.**
10. If 30 is 150% of a number, then 10 is 50% of the number. We know that 50% is the same as one half, so 10 is half of some number. **10 is half of 20, so answer choice (A) is the correct answer.**

Percents Practice Set 2

1. To find 75% *of* 48, we need to multiply 75% and 48 because *of* in math means multiply. We CANNOT multiply percents, so first we need to change 75% into a decimal or fraction. If we change 75% into a decimal, we get 0.75. 0.75 multiplied by 48 equals 36. **Answer choice (B) is the correct answer.**
2. To find 80% *of* 50, we need to multiply 80% and 50 because *of* in math means multiply. We CANNOT multiply percents, so first we need to change 80% into a decimal or fraction. If we change 80% into a decimal, we get 0.8. 0.8 multiplied by 50 equals 40. **Answer choice (C) is the correct answer.**
3. To find 5% *of* 700, we need to multiply 5% and 700 because *of* in math means multiply. We CANNOT multiply percents, so first we need to change 5% into a decimal or fraction. If we change 5% into a decimal, we get 0.05. 0.05 multiplied by 700 equals 35. **Answer choice (C) is the correct answer.**
4. To find 200% *of* 16, we need to multiply 200% and 16 because *of* in math means multiply. We CANNOT multiply percents, so first we need to change 200% into a decimal or fraction. If we change 200% into a decimal, we get 2.0. 2.0 multiplied by 16 equals 32. **Answer choice (A) is the**

correct answer. A shortcut to this problem is to remember that finding 200% of a number is the same as twice the number, so to find 200% of 16, just multiply 16 by 2.

5. To answer the question, “24 is what percent of 30?” instead answer the question, “24 is what *fraction* of 30?” To do this, put 24 over 30 so we get $\frac{24}{30}$. Now change that fraction into a percent. First simplify the fraction to $\frac{4}{5}$ and then divide the numerator by the denominator. 4 divided by 5 equals 0.8, so $\frac{4}{5}$ equals 0.8. Finally, change 0.8 into a percent by moving the decimal point *two places to the right*, which equals 80%. **Answer choice (C) is the correct answer.**
 6. To answer the question, “what percent of 10 is 40” instead answer the question, “what *fraction* of 10 is 40” To do this, put 40 over 10 so we get $\frac{40}{10}$. Now change that fraction into a percent. First simplify the fraction to 4. Next, change 4 into a percent by moving the decimal point *two places to the right*, which equals 400%. **Answer choice (D) is the correct answer.** A shortcut to this problem is to realize that 40 is *four times* 10 which means it is 400% of 10.
 7. To answer the question, “63 is what percent of 630?” instead answer the question, “63 is what *fraction* of 630?” To do this, put 63 over 630 so we get $\frac{63}{630}$. Now change that fraction into a percent. First simplify the fraction to $\frac{1}{10}$ and then divide the numerator by the denominator. 1 divided by 10 equals 0.1, so $\frac{1}{10}$ equals 0.1. Finally, change 0.1 into a percent by moving the decimal point *two places to the right*, which equals 10%. **Answer choice (C) is the correct answer.**
 8. First, change 20% into a fraction by putting it over 100 and simplifying. $\frac{20}{100}$ simplifies to $\frac{1}{5}$. Now, we are solving the problem, “10 is $\frac{1}{5}$ of what number?” To find this, multiple 40 by 5 to get 200. **Answer choice (B) is the correct answer.**
 9. If 90 is 150% of a number, then 30 is 50% of the number. We know that 50% is the same as one half, so 30 is half of some number. **30 is half of 60, so answer choice (A) is the correct answer.**
 10. First, change 25% into a fraction by putting it over 100 and simplifying. $\frac{25}{100}$ simplifies to $\frac{1}{4}$. Now, we are solving the problem, “12 is $\frac{1}{4}$ of what number?” To find this, multiple 12 by 4 to get 48. **Answer choice (D) is the correct answer.**
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Estimating Practice Set 1

1. To estimate 418 times 68, round each number. Round 418 down to 400 and round 68 up to 70. Therefore, an estimate would be 400 times 70. **Answer choice (D) is the correct answer.**
2. To estimate 19.57 divided by 4.86, round each number to the nearest whole number. 19.57 rounds up to 20 and 4.86 rounds up to 5. Therefore, an estimate would be 20 divided by 5. **Answer choice (A) is the correct answer.**

3. To estimate, round each number. Round 223 down to 200 and round 82 down to 80. Therefore, an estimate would be 200 times 80. **Answer choice (A) is the correct answer.**
4. To estimate this problem, round each number. Round 38 to 40, round 624 to 600, and round 18 to 20. Now multiply 40 and 600 and you get 24,000. Finally, divide 24,000 by 20 and you get 1,200. **Since 1,200 is in between 1,000 and 1,500, answer choice (B) is the correct answer.**
5. To estimate, round each number. Round 34.49 to \$34.50 because it is easy to work with numbers that end in 0.50. This means Lucy spent about \$34.50 on a shirt. Next, round \$2.99 to \$3 and find the cost of purchasing 3 pairs of socks by multiplying \$3 by 3 to get \$9. This means Lucy spent about \$9 on socks. Round \$67.49 to \$67.50 because it is easy to work with numbers that end in 0.50. This means Lucy spent about \$67.50 on a pair of shoes. Now add up the three numbers: $\$34.50 + \$9 + \$67.50 = \111 . **Since \$111 is in between \$110 and \$115, answer choice (C) is the correct answer.**
6. We want to estimate one-third of 29,029. To do this, we want to round 29,029 to 30,000 because it is easy to find one-third of 30,000. To find one-third of 30,000 divide 30,000 by 3 (or multiply 30,000 by one-third) to get 10,000. **We want to choose the answer choice that is closest to 10,000 feet, so answer choice (B) is the correct answer.**
7. Visually estimate how full one of the jars would be if you combine the two jars. If you pour jar 1 into jar 2, jar 2 will be almost full. Since a full jar holds 2 cups of water, we know our answer should be around 2 cups. **Answer choice (C) is the correct answer.**
8. To estimate, round each number. Round 77 to 80, round 62 to 60, and round 41 to 40. Now multiply 80 by 60 to get 4,800. Finally, divide 4,800 by 40 to get 120. **Since 120 is in between 100 and 125, answer choice (C) is the correct answer.**
9. Visually estimate how many full bars are shaded. Visually, we can tell that more than one full bar is shaded and less than two full bars are shaded. This means our answer should be in between 1 and 2. **Since answer choice (B) is $1 \frac{1}{2}$, answer choice (B) is the correct answer.**
10. First, we need to find out how many total cups of granola Tim made by adding up all of the ingredients: $9 + 7 + 5 + 4 + 2 = 27$ total cups. The problem says Tim divides the granola equally into 8 bags, so now we need to divide 27 by 8. 8 goes into 27 three times and there are three left over. So Tim can make somewhere in between 3 and 4 bags of train mix. **Since answer choice (B) is $3 \frac{1}{2}$, answer choice (B) is the correct answer.**

Estimating Practice Set 2

1. To estimate 73.87 times 295.74, round each number. Round 73.87 down to 70 and round 295.74 up to 300. Therefore, an estimate would be 70 times 300. **Answer choice (D) is the correct answer.**

2. To estimate 577 divided by 27, round each number. 577 rounds up to 600 and 27 rounds up to 30. Therefore, an estimate would be 600 divided by 30. **Answer choice (A) is the correct answer.**
 3. To estimate, round each number. Round 17 up to 20 and round 52 down to 50. Therefore, an estimate would be 20 times 50. **Answer choice (C) is the correct answer.**
 4. To estimate, round each number. We want all the dollar amounts to end in 0.00 or 0.50 because those are easy to work with, so round \$6.99 to \$7.00, \$3.49 to \$3.50, \$11.49 to \$11.50, \$5.49 to \$5.50, \$12.99 to \$13.00 and leave \$0.50 as it is. Now add up all the numbers: $\$7.00 + \$3.50 + \$11.50 + \$5.50 + \$13.00 + \$0.50 = \$41$. **Since \$41 is in between \$40 and \$45, answer choice (C) is the correct answer.**
 5. To estimate, round each number. Round 61 to 60, round 645 to 600, and round 29 to 30. Now multiply 60 by 600 to get 36,000. Finally, divide 36,000 by 30 to get 1,200. **Since 1,200 is in between 1,100 and 1,400, answer choice (B) is the correct answer.**
 6. We want to estimate one-fourth of 82,100. To do this, we want to round 82,100 to 80,000 because it is easy to find one-fourth of 80,000. To find one-fourth of 80,000 divide 80,000 by 4 (or multiply 80,000 by one-fourth) to get 20,000. **We want to choose the answer choice that is closest to 20,000 km squared , so answer choice (C) is the correct answer.**
 7. Visually estimate how full one of the jars would be if you combine the two jars. The left jar is $\frac{2}{3}$ full, and $\frac{2}{3}$ of 4 cups is $\frac{8}{3}$ cups, so the left jar has $\frac{8}{3}$ cups which equals $2\frac{2}{3}$ cups. The right jar is $\frac{3}{4}$ full, and $\frac{3}{4}$ of 4 cups is 3 cups, so the right jar has 3 cups. All together, they have $3 + 2\frac{2}{3} = 5\frac{2}{3}$ cups which is closest to 5.5 cups. **Answer choice (D) is the correct answer.**
 8. First, we need to find out how many total pints of paint Patricia mixed by adding up all of the colors: $10 + 5 + 3 + 1 + 1 = 20$ total cups. The problem says Patricia divides the paint equally into 6 cans, so now we need to divide 20 by 6. 6 goes into 20 three times and there are two left over. So Patricia can fill a little more than 3 cans. **Since answer choice (B) is $3\frac{1}{4}$, answer choice (B) is the correct answer.**
 9. To estimate this problem, round each number. Round 121 to 100, round 28 to 30, and round 64 to 60. Now multiply 100 and 30 and you get 3,000. Finally, divide 3,000 by 60 and you get 50. **Since 50 is in between 45 and 65, answer choice (C) is the correct answer.**
 10. Visually estimate how many full bars are shaded. Visually, we can tell that right around 2 full bars are shaded. We can tell this because the first bar is almost fully shaded, the second bar is only half shaded, and the third bar is a little more than half shaded. This means our answer should be as close to 2 as possible.. **Since answer choice (B) is 2, answer choice (B) is the correct answer.**
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Number Lines Practice Set 1

1. The difference between 19 and 4 is 15, and there are 5 spaces in between 4 and 19. To find the distance between each space, divide 15 by 5 to get 3. This means that the number line counts by 3. To get from 4 to A, we need to go up by 3 twice, so we go up by 6. $4 + 6 = 10$, so A is at 10. **Answer choice (C) is the correct answer.**
2. The difference between 62 and 20 is 42, and there are 6 spaces in between 20 and 62. To find the distance between each space, divide 42 by 6 to get 7. This means that the number line counts by 7. Since X is one space before 62, subtract 7 from 62 which equals 55. **Since X is at 55, answer choice (D) is the correct answer.**
3. The difference between 68 and 56 is 12, and there are 4 spaces in between 56 and 12. To find the distance between each space, divide 12 by 4 to get 3. This means that the number line counts by 3. Since B is two spaces before 56, we can go down by 3 twice, so we go down 6. $56 - 6 = 50$, so B is at 40. **Answer choice (A) is the correct answer.**
4. The difference between 3.1 and 1.5 is 1.6, and there are 8 spaces in between 1.5 and 3.1. To find the distance between each space, divide 1.6 by 8 to get 0.2. This means that the number line counts by 0.2. Since A is two spaces after 1.5, we need to go up by 0.2 twice, so we go up by 0.4. $1.5 + 0.4 = 1.9$. B is 0.2 more than A, so B is at 2.1. C is 0.2 more than B, so C is at 2.3. **Answer choice (B) is the correct answer.**
5. The difference between 8.7 and 5.2 is 3.5, and there are 7 spaces in between 5.2 and 8.7. To find the distance between each space, divide 3.5 by 7 to get 0.5. This means that the number line counts by 0.5. X is one space after 5.2, so it's 0.5 more than 5.2 which means X is at 5.7. Y is two spaces above X which means it's 1 more than X, so Y is at 6.7. Z is three spaces after Y which means it is 1.5 more than Y, so Z is at 8.2. **Answer choice (D) is the correct answer.**
6. The difference between 9.3 and 4.5 is 4.8, and there are 6 spaces in between 4.5 and 9.3. To find the distance between each space, divide 4.8 by 6 to get 0.8. This means that the number line counts by 0.8. J is two spaces before 4.5, so it's 1.6 away. $4.5 - 1.6 = 2.9$, so J is located at 2.9. **Since answer choice (B) is the only choice with 2.9, answer choice (B) is the correct answer.** To find K, add 0.8 to 4.5 and we get 5.3. To find L, add 2.4 to K and we get 7.7.
7. The difference between 6 and 2 is 4, and there are 2 spaces in between 2 and 6. To find the distance between each space, divide 4 by 2 to get 2. This means that the number line counts by 2. Since N is two spaces before 2, we need to subtract 4 from 2 to find N. $2 - 4 = -2$, so N is at -2. M is two spaces before N, so we can subtract 4 from N to find M. $-2 - 4 = -6$, so M is at -6. **Finally, find the sum of M and N by adding -6 and -2 to get -8. Answer choice (A) is the correct answer.**

8. The average of two numbers is the number that is directly in the *middle* of the two numbers. Therefore, if W is the average of V and another number, W is in the *middle* of V and another number. This means that the other number is 2 spaces to the right of W . Now, we can find the distance between each space by knowing that the difference between 24 and 3 is 21, and there are 7 spaces in between 3 and 24. 21 divided by 7 equals 3, so the number line counts by 3. W is one space to the right of 3, so W is at 6. The other number is 2 spaces to the right of W , so it's 6 higher than W . **The other number is 12, so answer choice (C) is the correct answer.**
9. The average of two numbers is the number that is directly in the *middle* of the two numbers. Therefore, if S is the average of R and another number, S is in the *middle* of R and another number. This means that the other number is 3 spaces to the right of S . Now, we can find the distance between each space by knowing that the difference between 8 and 0 is 8, and there are 4 spaces in between 0 and 8. 8 divided by 4 is 2, so the number line counts by 2. S is one space to the right of 8, so S is at 10. **The other number is 3 spaces to the right of S , so it's 6 higher than S . The other number is 16, so answer choice (D) is the correct answer.**
10. The difference between 2 and 1 is 1, and there are 4 spaces in between 1 and 2. To find the distance between each space, divide 1 by 4, which equals $\frac{1}{4}$. This means that the number line counts by $\frac{1}{4}$. G is 3 spaces after 2, so it's $\frac{3}{4}$ more than 2. 2 plus $\frac{3}{4}$ equals $2\frac{3}{4}$. **Answer choice (C) is the correct answer.**

Number Lines Practice Set 2

1. The difference between 5 and 35 is 30, and there are 5 spaces in between 5 to 35. To find the distance between each space, divide 30 by 5 to get 6. This means that the number line counts by 6. Since Y is 2 spaces before 35, subtract 6 from 35 twice to get 23, so Y is at 23. **Answer choice (C) is the correct answer.**
2. The difference between 3 and 4 is 1, and there are 8 spaces between 3 and 4. To find the distance between each space, divide 1 by 8 to get $\frac{1}{8}$. This means that the number line counts by $\frac{1}{8}$. F is 2 spaces after 3, so it's $\frac{2}{8}$ more than 3. 3 plus $\frac{2}{8}$ equals $3\frac{2}{8}$ which simplifies to $3\frac{1}{4}$. **Answer choice (A) is the correct answer.**
3. The difference between 7 and 31 is 24, and there are 6 spaces between 7 and 31. To find the distance between each space, divide 24 by 6 and we get 4. This means that the number line counts by 4. Since B is 2 spaces before 31, subtract 4 from 31 twice to get 23, so B is at 23. **Answer choice (B) is the correct answer.**
4. The difference between 0.3 and 5.1 is 4.8, and there are 8 spaces between 0.3 and 5.1. To find the distance between each space, divide 4.8 by 8 to get 0.6. This means that the number line counts by 0.6. Since Z is 2 spaces before 5.1, we need to subtract .6 from 5.1 twice to get 3.9, so Z is at 3.9. Y is one space before Z , so we can subtract 0.6 from Z to find Y . 3.9 minus 0.6 equals 3.3, so Y is at

3.3. X is one space before Y, so we can subtract 0.6 from Y to find X. 3.3 minus 0.6 equals 2.7, so X is at 2.7. **Answer choice (B) is the correct answer.**

5. The difference between 4.5 and 5.9 is 1.4, and there are 7 spaces between 4.5 and 5.9. To find the distance between each space, divide 1.4 by 7 to get .2. This means that the number line counts by 0.2. Since C is 1 space after 4.5, we can add 4.5 plus 0.2 to get 4.7, so C is at 4.7. Since D is 1 space after C, we can add 4.7 plus 0.2 to get 4.9, so D is at 4.9. Since E is 1 space before 5.9, we can subtract 0.2 from 5.9 to get 5.7, so E is at 5.7. **Answer choice (D) is the correct answer.**
6. The difference between 1.1 and 2.6 is 1.5, and there are 5 spaces between 1.1 and 2.6. To find the distance between each space, divide 1.5 by 5 to get .3. This means that the number line counts by 0.3. Since B is 1 space before 1.1, we can subtract 0.3 from 1.1 to get 0.8, so B is at 0.8. Since A is 2 spaces before B, we can subtract 0.6 from 0.8 to get 0.2, so A is at 0.2. Since C is 2 spaces before 2.6, we can subtract 0.6 from 2.6 to get 2, so C is at 2. **Answer choice (A) is the correct answer.**
7. The difference between 5 and 13 is 8, and there are 2 spaces between 5 and 13. To find the distance between each space, divide 8 by 2 to get 4. This means that the number line counts by 4. Q is 1 space after 5, so we can add 4 to 5 to find Q. 5 plus 4 equals 9, so Q is at 9. P is 4 spaces before 5, so we can subtract 16 from 5 to find P. 5 minus 16 equals -11, so P is at -11. **Finally to find the sum of P and Q we add 9 plus -11, which equals -2. Answer choice (B) is the correct answer.**
8. The difference between 37 and 69 is 32, and there are 4 spaces between 37 and 69. To find the distance between each space, divide 32 by 4 to get 8. This means the number line counts by 8. X is 2 spaces before 37 so we can subtract 16 from 37 to find X. 37 minus 16 equals 21, so X is at 21. **Answer choice (A) is the correct answer.**
9. The average of two numbers is the number that is directly in the *middle* of the two numbers. Therefore, if N is the average of M and another number, N is in the *middle* of M and another number. This means that the other number is 4 spaces to the right of N. Now, we can find the distance between each space by knowing that the difference between 10 and 35 is 25, and there are 5 spaces between 10 and 35. 25 divided by 5 equals 5, so the number line counts by 5. N is 2 spaces to the left of 35, so N is at 25. The other number is 4 spaces to the right of N, so it's 20 higher than N. **The other number is 45, so answer choice (D) is the correct answer.**
10. The average of two numbers is the number that is directly in the *middle* of the two numbers. Therefore, if U is the average of T and another number, U is in the *middle* of T and another number. This means that the other number is 2 spaces to the right of U. Now, we can find the distance between each space by knowing that the difference between 2 and 12 is 10, and there are 5 spaces in between 2 and 12. 10 divided by 5 equals 2, so the number line counts by 2. U is one space to the left of 12, so U is at 10. The other number is 2 spaces to the right of U, so it's 4 higher than U. **The other number is 14, so answer choice (C) is the correct answer.**
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Proportions Practice Set 1

1. Each hour, Brandon drives 25 miles. Therefore, to find how many hours it takes Brandon to drive 175 miles, divide 175 by 25 to get 7 hours. **Answer choice (C) is the correct answer.**
2. One method to solve this problem is to find out how many pages Mia can read in one minute by dividing 5 pages by 4 minutes. If you do this, you get that Mia can read 1.25 pages per minute. To find how long it will take Mia to read 100 pages, divide 100 by 1.25 to get 80 minutes. Another way to solve this problem is to use reasoning. If Mia can read 5 pages in 4 minutes, then she can read 10 pages in 8 minutes because if we double the pages, we double the time. Using this same logic, if Mia can read 5 pages in 4 minutes, she can read 100 pages in 80 minutes because if we multiply the number of pages by 20, we need to multiply the time by 20. **Using either method, answer choice (A) is the correct answer.**
3. Since Morgan can do 50 jumping jacks in 30 seconds, she can do 100 jumping jacks in 1 minute (there are 60 seconds in one minute). Therefore, to find how many jumping jacks she can do in 2 minutes, double the number of jumping jacks she can do in 1 minute: 100 times 2 equals 200. **Answer choice (A) is the correct answer.**
4. Figure out how many inches it snows each hour by dividing 1.2 inches by 4 hours to get 0.3 inches each hour. To find out how many hours it will take to snow 4.2 inches, divide 4.2 by 0.3 to get 14 hours. **Answer choice (D) is the correct answer.**
5. Find the cost of each apple by dividing \$9 by 6 apples to get \$1.50 per apple. Find the cost of 8 apples by multiplying \$1.50 by 8 which equals \$12. **Answer choice (B) is the correct answer.**
6. Find out how long it takes Partha to run 1 mile by dividing 22 minutes by 4 miles to get 5.5 minutes per mile. Since Panu runs at the same speed as Partha, to find how long it would take Panu to run 6 miles, multiple 6 miles by 5.5 minutes to get 33 minutes. **Answer choice (B) is the correct answer.**
7. Find out how many people can fit in 1 van by dividing 65 people by 5 vans to get 13 people per van. To find how many vans are needed to fit 156 people, divide 156 by 13 to get 12 vans. **Answer choice (A) is the correct answer.**
8. Find the price of buying one prize by dividing \$3 by 4 prizes to get \$0.75 per prize. To find out how much it will cost to buy 10 prizes, multiply \$0.75 by 10 to get \$7.50. **Answer choice (C) is the correct answer.**
9. The building shadow and height are in the same proportion as the child's shadow and height. Since the building's shadow is 5 times as long as the child's shadow, the building's height should be 5 times the child's height. 5 times 5 equals 25 feet. **Answer choice (C) is the correct answer.**

10. Find out how many miles are represented by 1 inch by dividing 36 miles by 2.4 inches to get 15 miles per inch. To find out how many inches represent 54 miles, divide 54 miles by 15 miles to get 3.6 inches. **Answer choice (B) is the correct answer.**

Proportions Practice Set 2

1. This problem tells us that Susan can swim 4 miles in 60 minutes which is the same as saying she can swim 4 miles in 1 hour, because there are 60 minutes in an hour. Since she can swim 4 miles in 1 hour, we can multiply 4 times 3 to find out how many miles Susan can swim in 3 hours. 3 times 4 equals 12, so Susan can swim 12 miles in 3 hours. **Answer choice (A) is the correct answer.**
2. Find out how long it takes Gina to make 1 bracelet by dividing 18 minutes by 8 bracelets to get 2.25 minutes per bracelet. To find how many bracelets Gina can make in 90 minutes, divide 90 minutes by 2.25 minutes per bracelet to get 40 bracelets. **Answer choice (C) is the correct answer.**
3. Find out how many words Daniel can type in 1 minute by dividing 120 words by 2 minutes to get 60 words per minute. To find out how long it would take Daniel to type 480 words, divide 480 words by 60 words per minute to get 8 minutes. **Answer choice (D) is the correct answer.**
4. Find out how many students each bus can fit by dividing 160 students by 8 buses to get 20 students per bus. To find out how many buses are needed to fit 60 students, divide 60 students by 20 students per bus to get 3 buses. **Answer choice (B) is the correct answer.**
5. Find out how many inches it rains in one hour by dividing 3.3 inches by 6 hours to get 0.55 inches of rain per hour. To find out how many inches it will rain in 10 hours, multiply 0.55 inches per hour times 10 hours to get 5.5 inches of rain. **Answer choice (A) is the correct answer.**
6. Find out how much 1 t-shirt costs by dividing \$100 by 16 t-shirts to get \$6.25. To find out how much 12 t-shirts cost, multiply \$6.25 by 12 t-shirts to get \$75. **Answer choice (D) is the correct answer.**
7. Find out how many pounds each wooden beam can support by dividing 50 pounds by 8 beams to get 6.25 pounds per beam. To find out how many beams are needed to support 175 pound, divide 175 pounds by 6.25 pounds per beam to get 28 beams needed. **Answer choice (C) is the correct answer.**
8. Find out how many tablespoons of sugar are needed for every tablespoon of water by dividing 4 tablespoons of sugar by 12 tablespoons of water to get $\frac{1}{3}$ tablespoon of sugar per tablespoon of water. To find out how many tablespoons of sugar are needed if you use 48 tablespoons of water, multiply 48 tablespoons of water by $\frac{1}{3}$ tablespoon of sugar per tablespoon of water to get 16 tablespoons of sugar needed. **Answer choice (B) is the correct answer.**
9. The flagpole's shadow and height are in the same proportion as the person's shadow and height. Since the flagpole is 3 times taller than the person, the flagpole's shadow should be 3 times longer than the person's shadow. 24 divided by 3 equals 8 feet. **Answer choice (D) is the correct answer.**

10. This problem is tricky, if we try to find out how many miles are represented by 1 cm by dividing 30 miles by 4.2 cm, we get a long decimal that is hard to work with. Instead if we realize that 30 and 20 are both multiples of 10, we can find how many cm represent 10 miles and use that number to find how many cm represent 20 miles. To find how cm's represent 10 miles, divide 4.2 by 3 to get 1.4, because 10 miles equals 30 miles divided by 3. Now we can multiply 1.4 cm per 10 miles by 2 to get 2.8 cm. **Answer choice (B) is the correct answer.**
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Ratios Practice Set 1

1. There are 16 peaches and 12 pears, so the ratio of peaches to pears is 16:12. To simplify the ratio, divide each part by four to get 4:3. **Answer choice (A) is the correct answer.**
2. To find which ratio is equivalent to 12:9, first simplify 12:9 by dividing each part by three to get 4:3. **Answer choice (D) is 4:3, so answer choice (D) is the correct answer.**
3. There are 15 red marbles and 10 green marbles, so the ratio of red to green marbles is 15:10. Simplify the ratio by dividing each part by 5 to get 3:2. **Answer choice (B) is the correct answer.**
4. The ratio of blue markers to green markers is 2:3. This means for every 2 blue markers, there are 3 green markers. If Lauren has 6 blue markers, the blue part of our ratio (2) was multiplied by 3 to get to 6 blue markers. We need to do the same thing to the green part of our ratio (3). Multiplying 3 by 3 results in 9 green markers. **Answer choice (C) is the correct answer.**
5. The ratio of soccer balls to basketballs is 4:7. This means for every 4 soccer balls there are 7 basketballs. If there are 28 soccer balls, the soccer ball part of our ratio (4) was multiplied by 7 to get 28 soccer balls. We need to do the same thing to the basketball part of our ratio (7). Multiplying 7 by 7 results in 49 basketballs. **Answer choice (D) is the correct answer.**
6. The ratio of green to yellow apples is 8:3, and we know there are 88 total apples. We want to find the number of green apples, so we need to find the ratio of green to total apples. For every 8 green apples, we have 3 yellow apples, so for every 8 green apples, we have 11 total apples. This means the ratio of green apples to total apples is 8:11. If there are 88 total apples, the total part of our ratio (11) was multiplied by 8 to get 88 total apples. We need to do the same thing to the green part of our ratio (8). Multiplying 8 by 8 results in 64 green apples. **Answer choice (C) is the correct answer.**
7. The ratio of boys to girls is 5:4. This means for every 5 boys, there are 4 girls. If there are 20 boys, we multiplied the boy part of our ratio (5) by 4 to get 20 boys. We need to do the same thing to the girls part of our ratio (4). Multiplying 4 by 4 results in 16 girls. Since the question is asking for the *total students* in the class, we can add the 20 boys and the 16 girls to get 36 total students. **Answer choice (C) is the correct answer.**

8. The ratio of adults to children is 3:5. This means for every 3 adults, there are 5 children. If there are 30 children, we multiplied the children part of our ratio (5) by 6 to get 30 children. We need to do the same thing to the adults part of our ratio (3). Multiplying 3 by 6 results in 18 adults. Since the question is asking for the *total people* at the play, we can add the 30 children and the 18 adults to get 48 total people. **Answer choice (B) is the correct answer.**
9. We know the ratio of black blocks to total blocks is 4:7 and there are 8 black blocks. We multiplied the black blocks part of our ratio (4) by 2 to get 8 black blocks. We need to do the same thing to the total part of our ratio. Multiplying 7 by 2 results in 14 total blocks. To find the number of white blocks, subtract the number of black blocks from the total number of blocks: 14 minus 8 equals 6. **Answer choice (B) is the correct answer.**
10. We know the ratio of shirts to pants is 5:2, so we want to find the ratio of shirts to pants for each answer choice and see which is equal to 5:2. Answer choice (A) is 15 shirts and 6 pants, so the ratio of shirts to pants is 15:6. Simplify this ratio by dividing each part by 3, and you get 5:2. **Answer choice (A) is the correct answer.** Answer choice (B) is 10:6 which simplifies to 5:3, so answer choice (B) is incorrect. Answer choice (C) is 6:20 which simplifies to 3:10, so answer choice (C) is incorrect. Answer choice (D) is 8:40 which simplifies to 1:5, so answer choice (D) is incorrect.

Ratios Practice Set 2

1. Annalisa has 15 pairs of sandals and 18 pairs of sneakers, so the ratio of pairs of sneakers to pairs of sandals is 18:15. To simplify the ratio, divide each part by 3 to get 6:5. **Answer choice (A) is the correct answer.**
2. The radius of circle A is 6 yards and the radius of circle B is 9 feet. To find the ratio we have to convert the radius of circle A from yards to feet by multiplying by 3, so the radius of circle A becomes 18 feet. The ratio of the radius of circle A to circle B is 18:9. To simplify the ratio, divide both parts by 9 to get 2:1. **Answer choice (D) is the correct answer.**
3. There are 24 gummies and 12 chocolates, so the ratio of gummies to chocolates is 24:12. To simplify the ratio, divide both parts by 12 to get 2:1. **Answer choice (A) is the correct answer.**
4. The ratio of Angela's age to Patricia's age is 6:7. This means for every 6 years of age Angela has, Patricia has 7 years of age. If Patricia is 42 years old, her part of the ratio (7) was multiplied by 6 to get to 42 years old. We need to do the same thing to Angela's part of our ratio (6). Multiplying 6 by 6 results in 36 years old. **Answer choice (B) is the correct answer.**
5. Rachel drank 4 gallons of water last week and 6 gallons of water this week, so she drank 10 gallons of water total over the two weeks. The ratio of the amount of water Rachel drank this week to the total water she drank over the two weeks is 6:10. To simplify the ratio, divide each part by 2 to get 3:5. **Answer choice (C) is the correct answer.**

6. The ratio of purple to orange marbles is 11:4. This means for every 11 purple marbles, there are 4 orange marbles which means that for every 15 total marbles ($11 + 4 = 15$), there are 11 purple marbles. Therefore, the ratio of purple to total marbles is 11:15. If there are 60 total marbles, we multiplied the total part of our ratio (15) by 4 to get 60 total marbles. We need to do the same thing to the purple part of our ratio (11). Multiplying 11 by 4 results in 44 purple marbles. **Answer choice (C) is the correct answer.**
7. The ratio of boys to girls is 3:7. This means for every 3 boys, there are 7 girls. If there are 21 girls, we multiplied the girl part of our ratio (7) by 3 to get 21 girls. We need to do the same thing to the boys part of our ratio (3). Multiplying 3 by 3 results in 9 boys. Since the question is asking for the *total students* in the class, we can add the 21 girls and the 9 boys to get 30 total students. **Answer choice (B) is the correct answer.**
8. The ratio of fiction books to non-fiction books is 5:2. This means for every 5 fiction books, there are 2 non-fiction books. If there are 120 non-fiction books, we multiplied the non-fiction part of our ratio (2) by 60 to get 120 non-fiction books. We need to do the same thing to the fiction part of our ratio (5). Multiplying 5 by 60 results in 300 fiction books. **Answer choice (B) is the correct answer.**
9. We know the ratio of cupcakes to muffins is 7:3, so we want to find the ratio of cupcakes to muffins for each answer choice and see which is equal to 7:3. Answer choice (A) is 54 cupcakes and 24 muffins, so the ratio of shirts to pants is 54:24. Simplify this ratio by dividing each part by 6, and you get 9:4, so answer choice (A) is incorrect. Answer choice (B) is 30:70 which simplifies to 3:7, so answer choice (B) is incorrect. Answer choice (C) is 42:24 which simplifies to 7:4, so answer choice (C) is incorrect. **Answer choice (D) is 28:12 which simplifies to 7:3, so answer choice (D) is the correct answer.**
10. The ratio of pink socks to total socks is 2:9, this means if there are 2 pink socks in the drawer, there are 9 total socks in the drawer. If there are 6 pink socks, we multiply the pink part of our ratio (2) by 3 to get 6 pink socks. We need to do the same to the total socks part of our ratio (9). Multiplying 9 by 3 results in 27 total socks in the drawer. Because the question is asking how many green socks are in the drawer, we have to subtract the number of pink socks (6) from the number of total socks (27). 27 minus 6 gives us 21 green socks in the drawer. **Answer choice (C) is the correct answer.**
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Probability Practice Set 1

1. Probability can be expressed as a fraction where the numerator is what we “want” and the denominator is the “total.” Find the total number of hats by adding 3 blue hats, 7 red hats, and 5 yellow hats to get 15 total hats. Since there are 3 blue hats, the probability of choosing a blue hat is 3 out of 15 or $\frac{3}{15}$. Divide each part by 3 to simplify the probability to 1 out of 5 or $\frac{1}{5}$. **Answer choice (A) is the correct answer.**

2. Probability can be expressed as a fraction where the numerator is what we “want” and the denominator is the “total.” Find the number of sections that are NOT red by adding the 4 black sections and the 6 white sections to get 10 sections that are NOT red. There are 12 total sections, so the probability of NOT landing on a red section is 10 out of 12 or $10/12$. Divide each part by 2 to simplify the probability to 5 out of 6 or $5/6$. **Answer choice (D) is the correct answer.**
3. Probability can be expressed as a fraction where the numerator is what we “want” and the denominator is the “total.” Find the total number of chocolates by adding 5 milk, 9 dark, and 6 white to get 20 total chocolates. Find the total number of dark and milk chocolates by adding 5 and 9 to get 14. Since there are 14 dark and milk chocolates and 20 total chocolates, the probability of choosing a dark or milk chocolate is 14 out of 20 or $14/20$. Divide each part by 2 to simplify the probability to 7 out of 10 or $7/10$. **Answer choice (C) is the correct answer.**
4. Find the total number of balls by adding 4 red balls, 2 blue balls, 6 purple balls, and 8 green balls to get 20 total balls. We are looking for the color that has a 2 out of 5 or $2/5$ chance of being chosen. This means we are looking for the color that represents $2/5$ of 20. Find $2/5$ of 20 by multiplying $2/5$ by 20 to get 8. Since there are 8 green balls, there is a 2 out of 5 chance a green ball is chosen. **Answer choice (D) is the correct answer.**
5. Since the probability of hitting a blue section of the dartboard is $2/9$, this means $2/9$ of the 18 sections are blue. Find $2/9$ of the 18 sections by multiplying $2/9$ by 18 which equals 4. **Answer choice (B) is the correct answer.**
6. Although the problem says that Carlon selects five cards, we only want to find the probability that the *first card* picked is labeled with the letter G. This means we don’t care about the four other cards. There are 12 total letters in between C and N, and only 1 of the letters is a G, so the probability of choosing a card labeled G is $1/12$. **Answer choice (A) is the correct answer.**
7. There are 20 total numbers in between 1 and 20, and there are 5 numbers that are no more than 5 (1, 2, 3, 4, and 5). This means we have a 5 out of 20 or $5/20$ chance of choosing a number that is no more than 5. Divide each part by 5 to simplify the probability to 1 out of 4 or $1/4$. **Answer choice (B) is the correct answer.**
8. Since the probability of choosing a student who plays soccer is 3 out of 5 or $3/5$, this means that $3/5$ of the students play soccer. Find $3/5$ of 30 by multiplying $3/5$ by 30 to get 18 students who play soccer. The problem asks for the number of students that do NOT play soccer, so subtract the 18 students that play soccer from the 30 total students to get 12 students who don’t play soccer. **Answer choice (B) is the correct answer.**
9. Check each answer choice until you find one that has the probability of choosing a grape juice box as 3 out of 8. For answer choice (A), there are 3 grape juice boxes and 8 other juice boxes. This means there are 11 total juice boxes, so the probability of choosing grape is 3 out of 11. Answer choice (A) is incorrect. For answer choice (B), there are 6 grape juice boxes and 12 other juice

boxes. This means there are 18 total juice boxes, so the probability of choosing grape is 6 out of 18 which simplifies to 1 out of 3. Answer choice (B) is incorrect. For answer choice (C), there are 8 grape juice boxes and 11 other juice boxes. This means there are 19 total juice boxes, so the probability of choosing grape is 8 out of 19. Answer choice (C) is incorrect. For answer choice (D), there are 9 grape juice boxes and 15 other juice boxes. This means there are 24 total juice boxes, so the probability of choosing grape is 9 out of 24 which simplifies to 3 out of 8. **Answer choice (D) is the correct answer.**

10. The probability of NOT choosing a white marble is $\frac{5}{7}$ which means the probability of choosing a white marble is $\frac{2}{7}$. Check each answer choice until you find one that has the probability of choosing a white marble as $\frac{2}{7}$. For answer choice (A), there are 5 white marbles and 7 other marbles. This means there are 12 total marbles, so the probability of choosing a white marble is $\frac{5}{12}$. Answer choice (A) is incorrect. For answer choice (B), there are 6 white marbles and 21 other marbles. This means there are 27 total marbles, so the probability of choosing a white marble is $\frac{6}{27}$ which simplifies to $\frac{2}{9}$. Answer choice (B) is incorrect. For answer choice (C), there are 4 white marbles and 10 other marbles. This means there are 14 total marbles, so the probability of choosing a white marble is $\frac{4}{14}$ which simplifies to $\frac{2}{7}$. **Answer choice (C) is the correct answer.** For answer choice (D), there are 15 white marbles and 6 other marbles. This means there are 21 total marbles, so the probability of choosing a white marble is $\frac{15}{21}$. This simplifies to $\frac{5}{7}$, so answer choice (D) is incorrect.

Probability Practice Set 2

1. Probability can be expressed as a fraction where the numerator is what we “want” and the denominator is the “total.” Find the total number of blocks by adding 9 gray blocks, 4 brown blocks, and 8 white blocks to get 21 total blocks. Since there are 9 gray blocks, the probability of choosing a gray block is 9 out of 21 or $\frac{9}{21}$. Divide each part by 3 to simplify the probability to 3 out of 7 or $\frac{3}{7}$. **Answer choice (B) is the correct answer.**
2. Probability can be expressed as a fraction where the numerator is what we “want” and the denominator is the “total.” Find the number of stickers that are NOT silver or gold which would mean they were pink and there are 8 pink stickers. There are 24 total stickers, so the probability of NOT choosing a silver or gold sticker is 8 out of 24 or $\frac{8}{24}$. Divide each part by 8 to simplify the probability to 1 out of 3 or $\frac{1}{3}$. **Answer choice (B) is the correct answer.**
3. Probability can be expressed as a fraction where the numerator is what we “want” and the denominator is the “total.” Find the total number of waffles by adding 3 blueberry, 4 plain, and 3 cinnamon to get 10 total waffles. Find the total number of blueberry and cinnamon waffles by adding 3 and 3 to get 6. Since there are 6 blueberry and cinnamon waffles and 10 total chocolate waffles, the probability of choosing a blueberry or cinnamon waffle is 6 out of 10 or $\frac{6}{10}$. Divide each part by 2 to simplify the probability to 3 out of 5 or $\frac{3}{5}$. **Answer choice (B) is the correct answer.**

4. Probability can be expressed as a fraction where the numerator is what we “want” and the denominator is the “total.” Find the number of sides that have even numbers, which would be 2, 4, and 6, so there are 3. There are 6 total sides, so the probability that the first roll lands on an even number is 3 out of 6 or $\frac{3}{6}$. Divide each part by 3 to simplify the probability to 1 out of 2 or $\frac{1}{2}$. **Answer choice (C) is the correct answer.**
5. We know the total number of dart board sections is 15 and we are looking for the color that has a 1 out of 5 or 1.5 chance of being hit. This means we are looking for the color that represents $\frac{1}{5}$ of 15. Find $\frac{1}{5}$ of 15 by multiplying $\frac{1}{5}$ by 15 to get 3. Since there are 3 blue sections, there is a 1 out of 5 chance a blue section is hit. **Answer choice (D) is the correct answer.**
6. Since the probability of choosing a brown pencil from the basket is $\frac{2}{5}$, this means $\frac{2}{5}$ of the 20 colored pencils are brown. Find $\frac{2}{5}$ of the 20 pencils by multiplying $\frac{2}{5}$ by 20 which equals 8. **Answer choice (B) is the correct answer.**
7. Since the probability of NOT landing on an orange section is 5 out of 6 or $\frac{5}{6}$, the probability of landing on an orange section must be 1 out of 6 or $\frac{1}{6}$. This means that $\frac{1}{6}$ of the 12 colored sections are orange. Find $\frac{1}{6}$ of the sections by multiplying $\frac{1}{6}$ by 12 which equals 2. **Answer choice (A) is the correct answer.**
8. Since the probability of choosing a strawberry flavored candy from the bag is $\frac{1}{4}$, this means that the 12 strawberry flavored candies in the bag are $\frac{1}{4}$ of the total candies in the bag. Find the total candies in the bag by dividing 12 by $\frac{1}{4}$, or multiplying 12 by 4 to get 48 total candies in the bag. To find how many other candies are in the bag, subtract the 12 strawberry flavored candies from the 48 total candies in the bag. 48 minus 12 equals 36. **Answer choice (C) is the correct answer.**
9. The probability of choosing a yellow marker is 2 out of 9 or $\frac{2}{9}$. Check each answer choice until you find one that has the probability of choosing a yellow marker as $\frac{2}{9}$. For answer choice (A), there are 2 yellow markers and 9 other markers. This means there are 11 total markers, so the probability of choosing a yellow marker is $\frac{2}{11}$. Answer choice (A) is incorrect. For answer choice (B), there are 4 yellow markers and 12 other markers. This means there are 16 total markers, so the probability of choosing a yellow marker is $\frac{4}{16}$ which simplifies to $\frac{1}{4}$. Answer choice (B) is incorrect. For answer choice (C), there are 6 yellow markers and 24 other markers. This means there are 30 total markers, so the probability of choosing a yellow marker is $\frac{6}{30}$ which simplifies to $\frac{1}{5}$. Answer choice (C) is incorrect. For answer choice (D), there are 8 yellow markers and 28 other markers. This means there are 36 total markers, so the probability of choosing a yellow marker is $\frac{8}{36}$ which simplifies to $\frac{2}{9}$. **Answer choice (D) is the correct answer.**
10. The probability of choosing a pink marble is $\frac{4}{11}$. Check each answer choice until you find one that does NOT have the probability of choosing a pink marble as $\frac{4}{11}$. For answer choice (A), there are 4 pink marbles and 7 other marbles. This means there are 11 total marbles, so the probability of choosing a pink marble is $\frac{4}{11}$. Answer choice (A) is incorrect. For answer choice (B), there are 8 pink marbles and 22 other marbles. This means there are 30 total marbles, so the probability of choosing a pink marble is $\frac{8}{30}$ which reduces to $\frac{4}{15}$. **Answer choice (B) is the correct answer.**

For answer choice (C), there are 16 pink marbles and 28 other marbles. This means there are 44 total marbles, so the probability of choosing a pink marble is $\frac{16}{44}$ which reduces to $\frac{4}{11}$. Answer choice (C) is incorrect. For answer choice (D), there are 20 pink marbles and 35 other marbles. This means there are 55 total marbles, so the probability of choosing a pink marble is $\frac{20}{55}$ which reduces to $\frac{4}{11}$. Answer choice (D) is incorrect.

Unit Conversions Practice Set 1

1. There are 4 quarts in 1 gallon. To find the number of quarts in two and a half gallons, multiply 4 by $2\frac{1}{2}$ which equals 10 quarts. **Answer choice (C) is the correct answer.**
2. There are 1,000 grams in 1 kilogram. To find the number of grams in 2.4 kilograms, multiply 2.4 by 1,000 which equals 2,400 grams. **Answer choice (C) is the correct answer.**
3. There are 1,000,000 milliliters in 1 kiloliter. To find the number of kiloliters in 4,000 milliliters, divide 4,000 by 1,000,000 which equals 0.004 kiloliters. **Answer choice (A) is the correct answer.**
4. There are 12 inches in 1 foot. Find the number of feet in 144 inches by dividing 144 by 12 which equals 12 feet. There are 3 feet in 1 yard. Find the number of yards in 12 feet by dividing 12 by 3 which equals 4 yards. **Answer choice (A) is the correct answer.**
5. There are 24 hours in 1 day. Find the number of hours in 2 days by multiplying 2 by 24 which equals 48 hours. There are 60 minutes in an hour. Find the number of minutes in 48 hours by multiplying 48 by 60 which equals 2,880 minutes. **Answer choice (B) is the correct answer.**
6. There are 3 feet in 1 yard. To find the number of feet in 18 yards, multiply 18 by 3 which equals 54 feet. **Answer choice (C) is the correct answer.**
7. There are 60 seconds in 1 minute. Find the number of minutes in 120 seconds by dividing 120 by 60 which equals 2 minutes. There are 60 minutes in 1 hour. Find the number of hours in 2 minutes by dividing 2 by 60. 2 divided by 60 equals $\frac{2}{60}$ which can be reduced to $\frac{1}{30}$. **Answer choice (B) is the correct answer.**
8. There are 2 cups in 1 pint. To find the number of pints in 24 cups, divide 24 by 2 which equals 12 pints. **Answer choice (C) is the correct answer.**
9. Check each answer choice until you find one that is equal to 6 quarts. Start with answer choice (A). There are 4 quarts in 1 gallon. Find how many gallons are in 6 quarts by dividing 6 by 4 which equals 1.5 gallons. Answer choice (A) is incorrect. Since answer choice (B) is the hardest to convert, move onto answer choice (C). There are 2 pints in 1 quart. Find the number of pints in 6 quarts by multiplying 6 by 2 which equals 12 pints. Answer choice (C) is incorrect. Next check answer choice (D). We know 6 quarts equals 12 pints, and there are 2 cups in 1 pint. Find the number of cups in 12

pints by multiplying 12 by 2 which equals 24. **Since 6 quarts equals 12 pints which equals 24 cups, answer choice (D) is the correct answer.**

10. Check each answer choice until you find one that is equal to 200 centimeters. Start with answer choices (B) and (C) because they are both meters. There are 100 centimeters in 1 meter. Find how many meters are in 200 centimeters by dividing 200 by 100 which equals 2 meters. **Answer choice (B) is the correct answer.**

Unit Conversions Practice Set 2

1. There are 1,000 milliliters in 1 liter. To find the number of liters in 530 milliliters, divide 530 by 1,000 which equals 0.53 liters. **Answer choice (A) is the correct answer.**
2. There are 12 inches in 1 foot. To find the number of inches in 24 feet, multiply 20 by 12 which equals 288. **Answer choice (D) is the correct answer.**
3. There are 4 quarts in 1 gallon. To find the number of quarts in one and a half gallons, multiply 4 times $1\frac{1}{2}$ which equals 6. There are 2 pints in 1 quart. To find the number of pints in 6 quarts, multiply 2 by 6 which equals 12. **Answer choice (B) is the correct answer.**
4. There are 24 hours in 1 day. Find the number of hours in half of a day by dividing 24 by 2 which equals 12 hours. There are 60 minutes in 1 hour. Find the number of minutes in 12 hours by multiplying 60 by 12 which equals 720. There are 60 seconds in 1 minute. Find the number of seconds in 720 minutes by multiplying 720 by 60 which equals 43,200. **Answer choice (C) is the correct answer.**
5. There are 1,000,000 milligrams in 1 kilogram. To find the number of milligrams in 0.06 kilograms, multiply 1,000,000 by 0.06 which equals 60,000. **Answer choice (C) is the correct answer.**
6. There are 3 feet in 1 yard. To find the number of feet in 9 yards, multiply 3 by 9 which equals 27. There are 12 inches in 1 foot. To find the number of inches in 27 feet, multiply 12 by 27 which equals 324. **Answer choice (D) is the correct answer.**
7. There are 8 fluid ounces in 1 cup. To find the number of fluid ounces in 4 cups, multiple 4 by 8 which equals 32. **Answer choice (D) is the correct answer.**
8. There are 60 minutes in 1 hour. To find how many hours there are in 195 minutes, divide 195 by 60 which equals 3.25. **Answer choice (D) is the correct answer.**
9. Check each answer choice until you find one that is equal to 70 centimeters. Start with answer choices (B) and (C) because they are both meters. There are 100 centimeters in 1 meter. Find how many meters are in 70 centimeters by dividing 70 by 100 which equals .7 meters. **Answer choice (C) is the correct answer.**

10. Check each answer choice until you find one that is equal to 16 quarts. Start with answer choice (A). There are 4 quarts in 1 gallon. Find how many quarts are in 2 by multiplying 4 by 2 which equals 8 quarts. There are 2 pints in 1 quart. Find the number of pints in 8 quarts by multiplying 8 by 2 which equals 16 pints. **Answer choice (A) is the correct answer.** For answer choice (B), there are 2 pints in 1 quart. Find how many pints are in 6 quarts by multiplying 4 by 2 which equals 8 pints. So answer choice (B) is incorrect. For answer choice (C), there are 8 fluid ounces in 1 cup. Find how many cups are in 32 fluid ounces by dividing 32 by 8 which is 3 cups. There are 2 cups in 1 pint. Find how many pints are in 3 cups by dividing 3 by 2 which equals 1.5 pints. Answer choice (C) is incorrect. For answer choice (D) there are 2 cups in 1 pint. Find how many pints are in 36 cups by dividing 36 by 2 which equals 18 pints. Answer choice (D) is incorrect.
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Appropriate Units Practice Set 1

1. Since we are measuring volume, we can cross out answer choice (A) because square feet measure area, answer choice (C) because kilograms measure weight or mass, and answer choice (D) because miles measure length. **Kiloliters are used to measure volume, so answer choice (B) is the correct answer.**
2. Since we are measuring length, we can cross out answer choice (B) because milliliters measure volume, and answer choice (D) because square inches measure area. Since a pencil is pretty small and isn't even one foot long, it wouldn't make sense to measure it in feet, so we can cross out answer choice (A). **Centimeters are small and measure length, so answer choice (C) is the correct answer.**
3. Since we are measuring weight, we can cross out answer choice (C) because cubic centimeters measure volume, and answer choice (D) because kilometers measure length. Since a truck has a very large weight, it wouldn't make sense to measure the weight in milligrams since milligrams are very small. We can cross out answer choice (B). **Tons are large and measure weight, so answer choice (A) is the correct answer.**
4. Since we are measuring height which is a measure of length, we can cross out answer choice (B) because grams measure weight, and answer choice (D) because square yards measure area. Since a tree is not even one mile tall, it wouldn't make sense to measure the height in miles. We can cross out answer choice (A). **Feet are smaller units and measure length/height, so answer choice (C) is the correct answer.**
5. Since we are measuring height which is a measure of length, we can cross out answer choice (C) because milligrams measure weight, and answer choice (D) because liters measure volume. Since a person is not even one kilometer tall, it wouldn't make sense to measure the height in kilometers. We

can cross out answer choice (A). **Inches are smaller units and measure length/height, so answer choice (B) is the correct answer.**

6. Since we are measuring length, we can cross out answer choice (A) because liters measure volume, answer choice (B) because grams measure weight or mass, answer choice (D) because square feet measure area. **Yards are used to measure length, so answer choice (C) is the correct answer.**
7. Since we are measuring volume, we can cross out answer choice (A) because pounds measure weight, answer choice (C) because kilograms measure weight or mass, and answer choice (D) because square feet measure area. **Cups are used to measure volume, so answer choice (B) is the correct answer.**
8. Since we are measuring area, we can cross out answer choice (A) because cubic feet measure volume, answer choice (B) because kilograms measure weight or mass, and answer choice (C) because yards measure length. **Square feet measure area, so answer choice (D) is the correct answer.**
9. Since we are measuring distance, which is a measure of length, we can cross out answer choice (B) because liters measure volume, and answer choice (C) because grams measure weight or mass. The distance between two cities is probably at least a mile or more. Inches are very small units of length, it wouldn't make sense to measure the distance between two cities in inches. **Kilometers are similar to miles and are large units of length, so answer choice (D) is the correct answer.**
10. Since we are measuring weight, we can cross out answer choice (C) because centimeters measure length, and answer choice (D) because milliliters measure volume. A toothbrush is very light and doesn't even weigh 1 ton, so it wouldn't make sense to measure the weight in tons. We can cross out answer choice (B). **Grams are small and measure weight, so answer choice (A) is the correct answer.**

Appropriate Units Practice Set 2

1. Since we are measuring width which is a measure of length, we can cross out answer choice (D) because square centimeters measure area. Although miles is a measure of length, it is too big of a measure for something the size of a piece of paper so we can cross out answer choice (A). Millimeters are also a measure of length, but they are very small and wouldn't make sense measuring the width of a piece of paper so we can cross out answer choice (B). **Inches are smaller than miles and larger than millimeters and make the most sense to measure the width of a piece of paper, so answer choice (C) is correct.**
2. Since we are measuring time we can cross out answer choice (B) because square feet measure area, and answer choice (C) because miles measure distance. The time it takes to drive between two cities would at least be longer than 10 minutes so measuring it in seconds wouldn't make much sense and

we can cross out answer choice (A). **Hours are long enough to measure something like the time it takes to drive between two cities, so answer choice (D) is correct.**

3. Since we are measuring depth which is a measure of length, we can cross out answer choice (B) because kilograms measure weight, answer choice (C) because cubic feet measure volume, and choice (D) because square yards measure area. **Kilometers are used to measure length, so answer choice (A) is the correct answer.**
4. Since we are measuring volume, we can cross out answer choice (B) because square feet measure area, answer choice (C) because kilograms measure weight, and answer choice (D) because kilometers measure length. **Cubic feet are used to measure volume, so answer choice (A) is the correct answer.**
5. Since we are measuring weight, we can cross out answer choice (A) because meters measure length, answer choice (C) because liters measure volume, and answer choice (D) because square centimeters measure area. **Kilograms are used to measure weight, so answer choice (B) is the correct answer.**
6. Since we are measuring volume, we can cross out answer choice (A) because tons measure weight, answer choice (C) because feet measure length, and answer choice (D) because square centimeters measure area. **Gallons are used to measure volume, so answer choice (B) is the correct answer.**
7. Since we are measuring area, we can cross out answer choice (A) because kiloliters measure volume, answer choice (B) because miles measure length, and answer choice (C) because feet measure length. **Square yards are used to measure area, so answer choice (D) is the correct answer.**
8. Since we are measuring weight, we can cross out answer choice (C) because square centimeters measure area and answer choice (D) because liters measure volume. A couch is usually pretty heavy and would weigh more than a couple pounds. Grams measure weight or mass but are too small for something as big as a couch so we can cross out answer choice (A). **Pounds are also used to measure weight and would be more appropriate for something the size of a couch, so answer choice (B) is the correct answer.**
9. Since we are measuring height which is a measure of length, we can cross out answer choice (A) because liters measure volume and answer choice (D) because kilograms measure weight or mass. A high rise building is very tall, at least 100 feet usually. Millimeters measure distance but are too small for something as tall as a high rise building so we can cross out answer choice (C). **Meters are comparable to feet and are larger measures of length, so answer choice (B) is the correct answer.**
10. Since circumference is a measure of length, we can cross out answer choice (B) because liters measure volume, answer choice (C) because kilograms measure weight or mass, and answer choice

(D) because milliliters measure volume. **Kilometers are a measure of length, so answer choice (A) is the correct answer.**

Solving Equations Practice Set 1

1. We know that x minus 8 equals 10. This means that x equals 8 plus 10 which equals 18. **Answer choice (D) is the correct answer.** You can also solve the problem by plugging in each answer choice for x and seeing which number makes the equation equal on both sides.
2. To find the value of $n - m$, we first need to find the values of n and m . Since 9 plus m equals 28, m equals 28 minus 9 which equals 19. Since n minus 7 equals 16, n equals 7 plus 16 which equals 23. The value of $n - m$ equals 23 - 19 which equals 4. **Answer choice (A) is the correct answer.**
3. We know that 2 times the sum of the square and 5 equals 36. This means that the sum of the square and 5 equals 18 because 2 times 18 equals 36. Now we have square plus 5 equals 18, which means square equals 18 minus 5 which equals 13. **Answer choice (B) is the correct answer.** You can also solve the problem by plugging in each answer choice for the square and seeing which number makes the equation equal on both sides.
4. To find the sum of a and b , we first need to find the values of a and b . Since a divided by 3 equals 9, this means a equals 9 times 3 which equals 27. Since b plus 3 equals 11, this means b equals 11 minus 3 which equals 8. The sum of a and b is 27 plus 8 which equals 35. **Answer choice (C) is the correct answer.**
5. We know that y divided by 3 minus 7 equals 13. This means that y divided by 3 equals 20 because 13 plus 7 equals 20. If y divided by 3 equals 20, then y equals 20 times 3 which equals 60. **Answer choice (D) is the correct answer.** You can also solve the problem by plugging in each answer choice for y and seeing which number makes the equation equal on both sides.
6. To find the product of x and y , we first need to find the values of x and y . Since -5 times x equals 20, this means x equals 20 divided by -5 which equals -4. Since 12 minus y equals 9, this means y equals 3 because 12 minus 3 equals 9. The product of x and y equals -4 times 3 which equals -12. **Answer choice (B) is the correct answer.**
7. Since 6 minus 2 times x equals 4, this means that 2 times x equals 2 because 6 minus 4 equals 2. Since 2 times x equals 2, this means x equals 1 because 2 times 1 equals 2. **Answer choice (B) is the correct answer.** You can also solve the problem by plugging in each answer choice for x and seeing which number makes the equation equal on both sides.
8. Since 20 divided by triangle plus 8 equals 12, this means 20 divided by triangle equals 4 because 12 minus 8 equals 4. If 20 divided by triangle equals 4, triangle equals 5 because 20 divided by 5 equals

4. **Answer choice (C) is the correct answer.** You can also solve the problem by plugging in each answer choice for the triangle and seeing which number makes the equation equal on both sides.
9. Since most students taking this test haven't learned how to solve equations with variables on both sides, we suggest plugging in each answer choice for b until you find one that makes both sides of the equation true. If we plug in answer choice (A) for b , the equation is $12 + 3 = 18 - 3$. **Simplify both sides to get $15 = 15$, so answer choice (A) is the correct answer.**
10. To find the value of y , we first need to find the value of x . Since 24 divided by x equals 8, x is equal to 3 because 24 divided by 3 equals 8. Now that we have x , instead of writing $x + y = 14$ for the second equation, we can replace x with 3 to get $3 + y = 14$. If 8 plus y equals 14, then y equals 14 minus 3 which equals 11. **Answer choice (D) is the correct answer.**

Solving Equations Practice Set 2

1. We know that x plus 7 equals 16. This means that x equals 16 plus 7 which equals 9. **Answer choice (A) is the correct answer.** You can also solve the problem by plugging in each answer choice for x and seeing which number makes the equation equal on both sides.
2. We know that 4 times the difference between the circle and 8 equals 20. This means that the difference between the circle and 8 equals 5 because 4 times 5 equals 20. Now we have the circle minus 8 equals 5, which means the circle equals 5 plus 8 which equals 13. **Answer choice (C) is the correct answer.** You can also solve the problem by plugging in each answer choice for the square and seeing which number makes the equation equal on both sides.
3. To find the value of $a + b$, we first need to find the values of a and b . Since a plus 11 equals 17, a equals 17 minus 11 which equals 6. Since 23 minus b equals 10, this means b equals 13 because 23 minus 13 equals 10. The value of $a + b$ equals 6 + 13 which equals 19. **Answer choice (A) is the correct answer.**
4. Since 5 times a plus 10 equals 25, 5 times a equals 15 because 25 minus 10 equals 15. Since 5 times a equals 15, a equals 3 because 5 times 3 equals 15. **Answer choice (B) is the correct answer.**
5. To find the product of x and y , we first need to find the values of x and y . Since x divided by 3 equals -8, x equals -8 times 3 which is -24. Since 6 times y equals -12, y equals -12 divided by 6 which is -2. The product of x and y equals -2 times -24 which equals 48. **Answer choice (D) is the correct answer.**
6. Since @ divided 2 minus 12 equals 8, @ divided by 2 equals 20 because 8 plus 12 equals 20. Since @ divided by 2 equals 20, @ equals 40 because 40 divided by 2 equals 20. **Answer choice (D) is the correct answer.**

7. Since most students taking this test haven't learned how to solve equations with variables on both sides, we suggest plugging in each answer choice for k until you find one that makes both sides of the equation true. If we plug in answer choice (A) for k , the equation is $2(2) - 6 = 2 + 2$. Simplify both sides to get $-2 = 4$, so answer choice (A) is incorrect. If we plug in answer choice (B) for k , the equation is $2(4) - 6 = 4 + 2$. Simplify both sides to get $2 = 6$, so answer choice (B) is incorrect. If we plug in answer choice (C) for k , the equation is $2(6) - 6 = 6 + 2$. Simplify both sides to get $6 = 8$, so answer choice (C) is incorrect. If we plug in answer choice (D) for k , the equation is $2(8) - 6 = 8 + 2$. **Simplify both sides to get $10 = 10$, so answer choice (D) is the correct answer.**
8. Since 12 divided by b plus 5 equals 7, 12 divided by b equals 2 because 7 minus 5 equals 2. Since 12 divided by b equals 2, b equals 6 because 12 divided by 6 equals 2. **Answer choice (B) is the correct answer.**
9. To find the value of m minus n , we first need to find the values of m and n . Since 4 times n equals 28, n equals 28 divided by 4 which equals 7. Since 16 minus m equals 7, m equals 16 minus 7 which equals 9. The value of $m - n$ equals $9 - 7$ which equals 2. **Answer choice (B) is the correct answer.**
10. To find the value of y , we first need to find the value of x . Since x minus 5 equals 7, x is equal to 12 because 7 plus 5 equals 12. Now that we have x , instead of writing $xy = 72$ for the second equation, we can replace x with 12 to get $12y = 72$. If 12 times y equals 72, then y equals 72 divided by 12 which equals 6. **Answer choice (A) is the correct answer.**
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Creating Equations and Expressions Practice Set 1

1. Vishak had x dollars and gave 6 to Hasti. After, he had y dollars remaining. This means that $x - 6 = y$. This is not an answer choice, so we need to understand that $x - 6 = y$ is in the same fact family as $x = y + 6$. **Answer choice (C) is the correct answer.**
2. We know the price of 8 boxes of paper is \$76, so to find the cost, c , of one box of paper, we would want to divide \$76 by 8. This is not an answer choice, so we need to understand that $76 \div 8 = c$ is in the same fact family $76 \div c = 8$. **Answer choice (A) is the correct answer.**
3. Let the price of a banana equal b . Since the price of an apple is twice the cost of a banana, we can say that the price of an apple is $2b$. The price of three apples and one banana is \$3.50, so we can set up this equation: $3 \cdot 2b + b = 3.50$. **This simplifies to $7b = 3.50$, so answer choice (B) is the correct answer.**
4. We want "eight less than six times a number", so start by writing an expression for "six times a number." "Six times a number" can be written as $6 \cdot x$ or $6x$. We want "eight less" than that, so we need to subtract eight from $6x$ which equals $6x - 8$. **Answer choice (A) is the correct answer.**

5. Start with the first part of the equation which is “three times the sum of a number and 8”. The “sum of a number and 8” can be written as $n + 8$. “Three times” this sum can be written as $3 \cdot (n + 8)$ or $3(n + 8)$. This should equal “5 less than half of the number.” “Half of the number” can be written as $\frac{1}{2}x$. “5 less than” that means subtract 5, so we get $\frac{1}{2}x - 5$ on the right side of our equation. **Our full equation is $3(n + 8) = \frac{1}{2}x - 5$, so answer choice (B) is the correct answer.**
6. Start with the first part of the equation which is “four more than twice a number”. “Twice a number” can be written as $2 \cdot n$ or $2n$. We want “four more” than that, so we need to add four to $2n$ which equals $2n + 4$. This “is” 16 which means it equals 16, so $2n + 4 = 16$. **Answer choice (D) is the correct answer.**
7. The equation for the volume of the rectangular prism is $V = lwh$, and the volume equals 60 cubic meters. First, replace the V in the equation with 60, so the equation is now $60 = lwh$. We want to isolate the h , so we need to get rid of the l and w on the right side of the equation. Because they are being multiplied by h , we can get rid of them by dividing both sides by lw . This leaves us with $60/(lw) = h$ which can be flipped around and written as $h = 60/(lw)$. **Answer choice (D) is the correct answer.**
8. The total amount Ryan spent is \$68, so the amount Ryan spent on shoes plus the amount Ryan spent on socks equals \$68. Ryan purchased 6 pairs of socks, the price he spent on the socks equals 6 times the price of each sock, s which is the same as $6s$. The total he spent is the \$50 he spent on shoes plus the $6s$ he spent on socks, so $50 + 6s = 68$. **Answer choice (C) is the correct answer.**
9. We want to find out how many *more* marshmallows Brenda ate than Gerald, so we want the *difference* between the number of marshmallows Brenda and Gerald ate which equals $x - y$. **Answer choice (B) is the correct answer.**
10. The equation to find the area of the triangle is $A = \frac{1}{2}bh$, and the area of the triangle is 40 square inches. First, replace A in the equation with 40, so the equation is now $40 = \frac{1}{2}bh$. We want to isolate the h , so we need to get rid of the b and $\frac{1}{2}$ on the right side of the equation. Since they are being multiplied by h , we can divide both sides by $\frac{1}{2}b$. This leaves us with $2(40)/b = h$ which can be flipped around and written as $h = 2(40)/b$. **Answer choice (A) is the correct answer.**

Creating Equations and Expressions Practice Set 2

1. We know that c represents how many points Corey scored. Since Roger scored 6 more points than Corey, we can say that the amount of points Roger scored is equal to $c + 6$. We also know that the amount of points Roger scored plus the amount of points Corey scored equals 34, so we can set up this equation: $c + c + 6 = 34$. **This simplifies to $2c + 6 = 34$, so answer choice (C) is the correct answer.**

2. Sonja had x dollars on Monday. After babysitting on Tuesday and making \$25 she had y dollars. This means that $x + 25 = y$. This is not an answer choice, so we need to understand that $x + 25 = y$ is in the same fact family as $y - x = 25$. **Answer choice (D) is the correct answer.**
3. We want to know how many *times* older Alice is than Brett. To find this we have to divide Alice's age by Brett's age. For example if Alice was 6 and Brett was 3, Alice would be 2 times as old as Brett because 6 divided by 3 equals 2. We know a represents Alice's age and b represents Brett's age so we are looking for a divided by b . **Answer choice (C) is the correct answer.**
4. Start with the first part of the equation which is "five more than half of a number". "Half of a number" can be written as $n/2$ or $1/2n$. We want "five more" than that so we need to add 5 to $1/2n$ which equals $1/2n + 5$. This "is" "three less than twice the number", which means it equals "three less than twice the number". "Twice the number" is written as $2n$ and we want "three less" than that, so we need to subtract 3 from $2n$ which equals $2n - 3$. **Setting the first part of the equation equal to the second gives us $1/2n + 5 = 2n - 3$, so answer choice (A) is the correct answer.**
5. We want "ten less than one fourth of a number", so start by writing an expression for "one fourth of a number". "One fourth of a number" can be written as $x/4$ or $1/4x$. We want "ten less" than that, so we have to subtract 10 from $1/4x$ which equals $1/4x - 10$. **Answer choice (B) is the correct answer.**
6. Start with the first part of the equation which is "four times the sum of a number and one". "The sum of a number and one" is written as $n + 1$. We want "four times" that, so we need to multiply $n + 1$ by 4, which equals $4(n + 1)$. This "is" 24 which means it equals 24, so $4(n + 1) = 24$. **Answer choice (B) is the correct answer.**
7. We know that Ryan has a total of 42 action figures and toy cars, so that means the number of action figures he has plus the number of toy cars he has equals 42. We know that he has 12 action figures but we don't know how many toy cars he has. We know Ryan has b boxes of toy cars and that each box of toy cars has 10 to cars in it, so we can say that the number of toy cars Ryan has is equal to the number of boxes he has times 10, or $10b$. So Ryan's 12 action figures plus his $10b$ to cars equals 42, which as an equation is $12 + 10b = 42$. **Answer choice (B) is the correct answer.**
8. We are looking for the total amount of money that Junior spent, which equals what he spent on his notebook plus what he spent on pencils. We know that Junior bought one notebook for \$12 and that he bought b boxes of pencils for \$3 dollars each. 1 times \$12 equals \$12 and b time \$3 equals $3b$. **If we add both amounts together the expression would be $12 + 3b$, so answer choice (C) is the correct answer.**
9. The equation to find the area of a rectangle is $A = bh$, and the area of the rectangle is 24 square meters. First, replace A in the equation with 24, so the equation is now $24 = bh$. We want to isolate the b , so we need to get rid of the h on the right side of the equation. Since they are being multiplied by b , we can divide both sides by h . This leaves us with $24/h = b$ which can be flipped around and written as $b = 24/h$. **Answer choice (A) is the correct answer.**

10. The equation to find the volume of a pyramid is $V = \frac{1}{3}lh w$, and the volume of the pyramid is 75 cubic inches. First, replace V in the equation with 75, so the equation is now $75 = \frac{1}{3}lh w$. We want to isolate the w , so we need to get rid of the l , the h , and $\frac{1}{3}$ on the right side of the equation. Since they are being multiplied by w , we can divide both sides by $\frac{1}{3}lh$. This leaves us with $3(75)/lh = w$ which can be flipped around and written as $w = 3(75)/lh$. **Answer choice (D) is the correct answer.**
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Function Tables Practice Set 1

1. Each output is 3 less than each input value, so if the input is 17, the output is 3 less than 17 which equals 14. **Answer choice (A) is the correct answer.**
2. Check each answer choice using the input/output pairs from the table. Answer choice (A) is incorrect because rows 2, 3, and 4 don't work: $11 - 5 = 6$ does not equal 5, $17 - 5 = 12$ does not equal 8, and $21 - 5 = 16$ does not equal 10. **Answer choice (B) is the correct answer because $2(4) + 1 = 9$, $2(5) + 1 = 11$, $2(8) + 1 = 17$, and $2(10) + 1 = 21$.** Answer choice (C) is incorrect because rows 1, 3, and 4 don't work: $3(4) - 4 = 8$ does not equal 9, $3(8) - 4 = 20$ does not equal 17, and $3(10) - 4 = 26$ does not equal 21. Answer choice (D) is incorrect because rows 1, 3, and 4 don't work: $9 - 6 = 3$ does not equal 5, $17 - 6 = 11$ does not equal 8, and $21 - 6 = 15$ does not equal 10.
3. Check each answer choice using the input/output pairs from the table. Answer choice (A) is incorrect because it doesn't work for rows 2, 3, and 4 because the x and y are not equal. Answer choice (B) is incorrect because it doesn't work for rows 1, 2, and 4: $1 - 12 = -11$ does not equal 1, $2 - 12 = -10$ does not equal 0, and $10 - 12 = -2$ does not equal -8. **Answer choice (C) is the correct answer because $-1 + 2 = 1$, $-2 + 2 = 0$, $-7 + 2 = -5$, and $-10 + 2 = -8$.** Answer choice (D) is incorrect because it doesn't work for any of the rows: $-1 - 2 = -3$ does not equal 1, $-2 - 2 = -4$ does not equal 0, $-7 - 2 = -9$ does not equal -5, and $-10 - 2 = -12$ does not equal -8.
4. As the inputs go up by 3, the outputs go up by 9. To find a , add 9 to 44 to get 53. **Answer choice (A) is the correct answer.**
5. As the inputs go up by 2, the outputs go up by 4. Therefore, an input of 9 gives an output of 20, and an input of 11 gives an output of 24. **Answer choice (B) is the correct answer.**
6. As the inputs go up by 1, the outputs go up by 3. Therefore, an input of 5 gives an output of 14, an input of 6 gives an input of 17, and an input of 7 gives an output of 20, so x equals 7. **Answer choice (B) is the correct answer.**
7. Check each answer choice using the input/output pairs from the table. Answer choice (A) is incorrect because it doesn't work with rows 2, 3, and 4: $5 \cdot 2 + 1 = 11$ does not equal 9, $5 \cdot 4 + 1 = 21$ does not equal 15, and $5 \cdot 8 + 1 = 41$ does not equal 27. Answer choice (B) is incorrect because it doesn't work with any of

the rows. Since we are multiplying by 2, all of the outputs would have to be even, and rows 2, 3, and 4 are odd. Answer choice (C) is incorrect because it doesn't work with any of the rows: $1 + 3$ does not equal 6, $2 + 3$ does not equal 9, $4 + 3$ does not equal 15, and $8 + 3$ does not equal 27. **Answer choice (D) is the correct answer because $3(1 + 1) = 6$, $3(2 + 1) = 9$, $3(4 + 1) = 15$, and $3(8 + 1) = 27$.**

8. Check each answer choice using the input/output pairs from the table. **Answer choice (A) is the correct answer because $5 - 2 \cdot (-2) = 9$, $5 - 2 \cdot 0 = 5$, $5 - 2 \cdot 1 = 3$, $5 - 2 \cdot 3 = -1$.** Answer choice (B) is incorrect because it doesn't work with rows 2, 3, and 4: $0 + 11$ does not equal 5, $1 + 11$ does not equal 3, and $3 + 11$ does not equal -1. Answer choice (C) is incorrect because it doesn't work with rows 1, 3, and 4: $5 + 2 \cdot (-2)$ does not equal 9, $5 + 2 \cdot 1$ does not equal 3, and $5 + 2 \cdot 3$ does not equal -1. Answer choice (D) is incorrect because it doesn't work with rows 1, 2, and 4: $2 \cdot (-2) + 1$ does not equal 9, $2 \cdot 0 + 1$ does not equal 5, and $2 \cdot 3 + 1$ does not equal -1.
9. Using the rule, find x . Plug in 1 for the input (square) and x for the output (triangle) to get $x = 3 \cdot 1 - 4$. Simplify this equation to get x equals -1. Using the rule, find y next. Plug in y for the input (square) and 8 for the output (triangle) to get $8 = 3 \cdot y - 4$. Solve this equation to get y equals 4. Now find $x + y$ by adding $-1 + 4$ which equals 3. **Answer choice (A) is the correct answer.**
10. Looking at rows 2 through 4, as the inputs go up by 5, the outputs go up by 2. Since 10 is 2 lower than 12, x should be 5 lower than 20. Therefore, x equals 15. To find y , continue going up by 5 for the inputs and up by 2 for the outputs: an input of 35 has an output of 18, an input of 40 has an output of 20, and an input of 45 has an output of 22. Therefore, y equals 22. To find $x + y$ add $15 + 22$ which equals 37. **Answer choice (C) is the correct answer.**

Function Tables Practice Set 2

1. Using the rule, find x . Plug in x for the input (a) and 5 for the output (b) to get $x = 3 - 5$. Simplify this equation to get $x = -2$. Now using the rule, find y . Plug in -4 for the input (a) and y for the output (b) to get $-4 = y - 5$. Solve this equation to get $y = 1$. Now find $x - y$ by subtracting $(-2) - 1$ which equals -3 . **Answer choice (A) is the correct answer.**
2. Check each answer choice using the input/output pairs from the table. Answer choice (A) is incorrect because rows 2, 3, and 4 don't work: $3(4) - 5$ does not equal 6, $3(7) - 5$ does not equal 12, and $3(12) - 5$ does not equal 22. Answer choice (B) is incorrect because rows 2, 3, and 4 don't work: $4 + 1$ does not equal 6, $7 + 1$ does not equal 12, and $12 + 1$ does not equal 22. Answer choice (C) is incorrect because rows 1, 2, and 4 don't work: $3 + 5$ does not equal 4, $4 + 5$ does not equal 6, and $12 + 5$ does not equal 22. **Answer choice (D) is the correct answer because $2(3) - 2 = 4$, $2(4) - 2 = 6$, $2(7) - 2 = 12$, and $2(12) - 2 = 22$.**
3. Check each answer choice using the input/output pairs from the table. **Answer choice (A) is the correct answer because $2 \cdot (1 - 2) = -2$, $2 \cdot (2 - 2) = 0$, $2 \cdot (4 - 2) = 4$, and $2 \cdot (5 - 2) = 6$.** Answer choice (B) is incorrect because rows 2, 3, and 4 don't work: $2 - 3$ does not equal 0, $4 - 3$ does not equal 4,

and $5 - 3$ does not equal 6. Answer choice (C) is incorrect because rows 2, 3, and 4 don't work: $-2 \cdot 2$ does not equal 0, $-2 \cdot 4$ does not equal 4, and $-2 \cdot 5$ does not equal 6. Answer choice (D) is incorrect because none of the rows work: $2 \cdot (1 + 2)$ does not equal -2 , $2 \cdot (2 + 2)$ does not equal 0, $2 \cdot (4 + 2)$ does not equal 4, and $2 \cdot (5 + 2)$ does not equal 6.

4. As the inputs go up by 2, the outputs go up by 12. Therefore, an input of 11 gives an output of 67 and an input of 13 gives an output of 79. Notice that the output we are looking for is right in the middle of 67 and 79, so the input we are looking for should be right in the middle of 11 and 13. **12 is in the middle of 11 and 13 so answer choice (C) is the correct answer.**
5. Each output is 6 less than each input value, so if the input is 47, the output is 6 less than 47, which equals 41. **Answer choice (C) is the correct answer.**
6. Check each answer choice using the input/output pairs from the table. Answer choice (A) is incorrect because rows 2, 3, and 4 don't work: $12 + 7$ does not equal 21, $15 + 7$ does not equal 27, and $20 + 7$ does not equal 37. Answer choice (B) does not work because rows 2, 3, and 4 don't work: $3 \cdot 12 - 13$ does not equal 21, $3 \cdot 15 - 13$ does not equal 27, and $3 \cdot 20 - 13$ does not equal 37. Answer choice (C) is incorrect because rows 1, 3, and 4 don't work: $10 + 9$ does not equal 17, $15 + 9$ does not equal 27, and $20 + 9$ does not equal 37. **Answer choice (D) is the correct answer because $2 \cdot 10 - 3 = 17$, $2 \cdot 12 - 3 = 21$, $2 \cdot 15 - 3 = 27$, and $2 \cdot 20 - 3 = 37$.**
7. Check each answer choice using the input/output pairs from the table. Answer choice (A) is incorrect because rows 2, 3, and 4 don't work: $8 - 7$ does not equal -1 , $14 - 7$ does not equal 2, and $20 - 7$ does not equal 5. **Answer choice (B) is the correct answer because $\frac{1}{2} \cdot 4 - 5 = -3$, $\frac{1}{2} \cdot 8 - 5 = -1$, $\frac{1}{2} \cdot 14 - 5 = 2$, and $\frac{1}{2} \cdot 20 - 5 = 5$.** Answer choice (C) is incorrect because rows 2, 3, and 4 don't work: $-(8) + 1$ does not equal -1 , $-(14) + 1$ does not equal 2, and $-(20) + 1$ does not equal 5. Answer choice (D) is incorrect because rows 1, 2, and 3 don't work: $4 \div 4$ does not equal -3 , $8 \div 4$ does not equal -1 , and $14 \div 4$ does not equal 2.
8. Looking at rows 2, 3, and 5, we can see that the inputs are equal to the output multiplied by 2. Therefore, the square is equal to $4 \cdot 2$ which equals 8. To find the triangle we have to do the opposite and divide the input by 2. 44 divided by 2 equals 22, so the triangle equals 22. Finally the square plus the triangle equals $8 + 22$ which equals 30. **Answer choice (B) is the correct answer.**
9. This problem is a little ticky because the inputs skip numbers, but the rule is as the inputs go up by 2, the outputs go up by 1. Therefore, an input of 20 gives an output of 9, an input of 22 gives an output of 10, and an input of 24 gives an output of 11, so b equals 11. **Answer choice (C) is the correct answer.**
10. From the first three rows, we can see that as the input goes up by 4, the output goes up by 8. Using this, we know that an input of 18 gives an output of 37, and input of 22 gives an output of 45, and input of 26 gives an output of 53, and an input of 30 gives an output of 61. **Answer choice (D) is the correct answer.**

Mixed Word Problems Practice Set 1

1. Ryan scored 7 more points than Wilson, so find the number of points Ryan scored by adding 18 to 7 which equals 25. Find the number of points they scored all together by adding the 25 points Ryan scored and the 18 points Wilson scored which equals 43 points. **Answer choice (D) is the correct answer.**
2. Since Leo lost 6 fewer games than he won, we know that he lost fewer than half of the games. Half of 28 equals 14, so we can cross out answer choices (C) and (D) because they are greater than 14. Now try answer choices (A) and (B) and see which one works with the requirements. For answer choice (A), if Leo lost 8 games and he lost 6 fewer games than he won, then Leo won 14 games. 8 games lost plus 14 games won equals 22 games played, not 28 games, so answer choice (A) is incorrect. For answer choice (B), if Leo lost 11 games and he lost 6 fewer games than he won, then Leo won 17 games. 11 games lost plus 17 games won equals 28 games played. **Answer choice (B) is the correct answer.**
3. Benji split his cookies into 5 boxes with 25 cookies in each box. Find the total number of cookies Benji has by multiplying 5 by 25 which equals 125 cookies. He sells each cookie for \$2, so multiply 125 cookies by \$2 per cookie to get a total of \$250 made. **Answer choice (D) is the correct answer.**
4. The first part of the problem states that the number is an even number, greater than 12, and less than 18, so our options so far are 14 and 16. The next part of the problem says the number is greater than 14 and less than 20, so 14 is no longer an option. **The number is 16, so answer choice (C) is the correct answer.**
5. Hansel has 16 more pieces of candy than Gretel, so for Hansel and Gretel to have the same amount of candy, Hansel needs to give Gretel half of the difference which is 8. If Hansel gives Gretel 8 pieces, Hansel now has 48 pieces and Gretel also has 48 pieces. **Answer choice (A) is the correct answer.**
6. The problem tells us that the number is greater than 30, less than 40, and a multiple of 4 and 6. The only multiple of both 4 and 6 that is greater than 30 and less than 40 is 36. **Answer choice (C) is the correct answer.**
7. Harold puts \$20 into his bank account every week for 14 weeks, so find the total amount Harold puts in by multiplying 20 by 14 to get \$280. Now add that to the \$-40 that Harold has initially: $\$-40 + \$280 = \$240$. **Answer choice (A) is the correct answer.**
8. Find the total cost of the office by multiplying the 8 people who split the office by the \$75 paid by each person: $8 \cdot 75 = \$600$. Since 3 people decided they don't need the office, that leaves 5 people

left to split the cost of the office. Divide \$600 by 5 people to find the amount each person pays: $\$600 \div 5 = \120 . **Answer choice (C) is the correct answer.**

9. Danielle is twice as tall as Yasmin, so multiply Yasmin's height by 2 to find Danielle's height: 36 inches $\cdot 2 = 72$ inches. Anthony is 3 inches shorter than Danielle, so subtract 3 inches from Danielle's height to find Anthony's height: 72 inches $- 3$ inches = 69 inches. Anthony is 8 inches taller than Lucas which means Lucas is 8 inches shorter than Anthony, so find Lucas' height by subtracting 8 inches from Anthony's height: 69 inches $- 8$ inches = 61 inches. Finally, find the combined height of Lucas and Anthony by adding their heights: 69 inches $+ 61$ inches = 130 inches. **Answer choice (B) is the correct answer.**
10. Use the answer choices for this problem and start with (B) or (C) because they are the numbers in the middle. If we start with answer choice (C) and assume Sam is 16 years old, Ronnie is 32 years old because Ronnie is twice as old as Sam. Jenny is 8 years old because Jenny is half as old as Sam. Their combined ages are $16 + 8 + 32$ which equals 56. Since the problem tells us their combined ages is 42, we know answer choice (C) is incorrect. Since their combined age was 56 years for answer choice (C) which is higher than the combined age we are looking for, we know that we need to choose an answer choice that is *smaller* than answer choice (C). Next, try answer choice (B) and assume Sam is 12 years old, Ronnie is 24 years old because Ronnie is twice as old as Sam. Jenny is 6 years old because Jenny is half as old as Sam. **Their combined ages is $12 + 24 + 6$ which equals 42, so answer choice (B) is the correct answer.**

Mixed Word Problems Practice Set 2

1. The total number of students at the middle school is 254. We know that there are 97 sixth graders and 84 seventh graders. To find how many eighth graders, subtract the number of sixth and seventh graders from the total number of students. $254 - 97 = 157$, and $157 - 84 = 73$, so there are 73 eighth graders at the middle school. **Answer choice (B) is the correct answer.** You could also add up the number of sixth and seventh graders first and then subtract that number from the total number of students to find the answer.
2. The first part of the problem states that the number is greater than 20 and less than 30, so our options so far are 25, 27, and 29. The problem then states that Liam guessed the number was 29 but was wrong, so our options are now only 25 and 27. The final part of the problem states that the number is greater than 25 and less than 32, so 27 is the number. **Answer choice (B) is the correct answer.**
3. First find the total number of carrots that Carla has. We know last week she planted 24 carrots and this week she planted 3 equal rows of 6 carrots. To find how many carrots she planted this week, multiply 6 times 3 which equals 18. To find the total number of carrots Carla has, add $24 + 18$ which equals 42. Finally, to find out how many carrots will be in each of the 6 equal boxes, divide 42 by 6 which equals 7. **Answer choice (C) is the correct answer.**

4. First find out how much Greg owes in total by adding up both of his college loan amounts. $4,200 + 1,200 = 5,400$. Next divide his total loan amount by how much he pays off each month to find out how many months it will take him to fully pay off his loans. $5,400 \div 300 = 18$, so **answer choice (C) is the correct answer.**
5. The first part of the problem states Maria has “four less than twice” the amount of money her brother has. The “twice” means we have to take the amount of money her brother has and multiply it by 2. Her brother has \$48 so $48 \cdot 2 = 96$. Next the “four less” means we have to subtract 4 from that number, so $96 - 4 = 92$. The question asks for the amount of money Maria and her brother have all together, so add 92 and 48 to get \$140. **Answer choice (D) is the correct answer.**
6. The first part of the problem states that the number is greater than 20 and less than 29, so our options are 23, 25, and 27. The next part of the problem states that when Chirstina’s friend Rebecca tried to guess, Christina told her the number was a prime number. A prime number is a number that is only divisible by one and itself. This eliminates 25 because the factors of 25 are 1, 5, and 25 so it is not prime. This also eliminates 27 because the factors of 27 are 1, 3, 9, and 27 so it is also not prime. **23 is a prime number because its only factors are 1 and 23, so answer choice (A) is the correct answer.**
7. The problem states that there are 25 people waiting in line for a ride and that each car on the ride can hold no more than 7 people. The problem also states that no two cars can have the same number of people. To find the least amount of cars it will take to fit all 25 people, start filling the cars and count how many it takes. For the first car put 7 people because this is the maximum 1 car can hold. The next car can’t have 7 so put the next largest amount it can hold, which is 6. Put 5 in the next and so on and so forth. If we start with 25 and subtract 7 we get 18. 18 minus 6 equals 12, 12 minus 5 equals 7, 7 minus 4 equals 3, and 3 minus 3 equals 0. **It took us 5 cars to fit all the people, so answer choice (C) is the correct answer.**
8. Since the winning team scored 8 more points than the losing team, we know the winning team scored more than half the points and the losing team scored less than half the points. Half of 94 is 47, so we can eliminate choices (C) and (D) because they are greater than 47 and we are looking for the losing team's score. Now try answer choices (A) and (B) and see which one works with the requirements. For answer choice (A), if the losing team scored 39 points and that is 8 less than the winning team, the winning team scored 47 points. 39 points plus 47 points equals 86 points, not 94 points, so answer choice (A) is incorrect. For answer choice (B), if the losing team scored 43 points and that is 8 less than the winning team, the winning team scored 51 points. **43 points plus 51 points equals 94 points, so answer choice (B) is the correct answer.**
9. We know the combined weight of all three objects is 30 grams. Right away we can eliminate answer choices (C) and (D) because we know the prism weighs half as much as the cube, which means the cube weighs twice as much as the prism. If the prism was 10 grams, the cube would be 20 grams and that would leave no room for the cylinder. Similarly if the prism was 15 grams, the cube would be 30 grams and that would be over the total combined weight. We can just check answer choices (A) and

(B) and see which one fits with the requirements. For answer choice (A), if the prism is 5 grams, the cube is twice that so it would be 10 grams. The cylinder is 5 more grams than the cube, that would make it 15 grams. **When we add 5 grams plus 10 grams plus 15 grams, we get 30 grams, so answer choice (A) is the correct answer.** For answer choice (B), if the prism is 8 grams, the cube would be 16 grams, and the cylinder would be 21 grams. 8 grams plus 16 grams plus 21 grams equals 45 grams, so answer choice (B) is incorrect.

10. Tom's age is one third of Lara's age, which means Lara's age is three times Tom's age. To find Lara's age multiply Tom's age by 3: $18 \cdot 3 = 54$. Lara is 14 years younger than Brynn, so add 14 years to Lara's age to find how old Brynn is: $54 + 14 = 68$. **Answer choice (D) is the correct answer.**
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Mean, Median, Mode, and Range Practice Set 1

1. To find the mean, add up all of the numbers and divide by how many numbers you added up: $10 + 340 + 15 + 223 + 55 + 77 = 720$. We added up 6 numbers, so divided 720 by 6 to get 120. **Answer choice (A) is the correct answer.**
2. To find the median, line the numbers up in order from least to greatest and the median is the middle number: 45, 45, 45, 48, 52, 60, 90, 120. Since we have eight numbers, we have two middle numbers: 48 and 52. To find the median with two middle numbers, find the mean or average of the two numbers by adding the two middle numbers and dividing by two: $48 + 52 = 100$ and $100 \div 2 = 50$. **Answer choice (C) is the correct answer.**
3. The mode is the number that appears the most. 47 appears three times in the list which is more than any other number, so 47 is the mode. **Answer choice (D) is the correct answer.**
4. To find the range, subtract the smallest number from the largest number: $96 - 7 = 89$. **Answer choice (C) is the correct answer.**
5. Find the mean age by adding up the ages of all of Brian's family members and divide by 5 because there are 5 family members. Don't forget Brian and his twin brother are each 15 years old, so you need to add two 15s when finding the mean: $15 + 15 + 45 + 50 + 5 = 130$ and $130 \div 5 = 26$. **Answer choice (B) is the correct answer.**
6. Start by finding the median, mode, and range of the data because they are easier than finding the mean. Then check the answer choices that involve median, mode, and range. The median is 30 because the numbers are lined up in order from least to greatest and 30 is in the middle. The mode is 20 because it appears the most. The range is the largest number minus the smallest number which is 60 minus 20, so the range is 40. The median and mode are not the same, so answer choice (A) is incorrect. The median is not higher than the range, so answer choice (B) is incorrect. The range is

not lower than the mode, so answer choice (C) is incorrect. **We are left with answer choice (D) as the correct answer.**

7. Start by finding the median, mode, and range of the data because they are easier than finding the mean. Then check the answer choices that involve median, mode, and range. Find the median by lining the numbers up in order from least to greatest and finding the middle number: 3, 40, 45, 45, 45, 50. The two middle numbers are both 45, so the median is 45. The mode is also 45 because it appears the most. The range is the largest number minus the smallest number which is 50 minus 3, so the range is 47. Remember, we are looking for which answer choice is *false*. Answer choice (B) is true, so it is incorrect. **Answer choice (C) is false, so answer choice (C) is the correct answer.**
8. The range of a set of data is the largest number minus the smallest number. Let L equal the smallest number. If the largest number is 41 and the range is 23, this means $41 - L = 23$. Using fact families, this is the same as $41 - 23 = L$, so the lowest number is 18. **Answer choice (B) is the correct answer.**
9. To find the average (same as mean) add up the numbers and divide by how many numbers you added up. Add up the whole numbers and you get $3 + 1 + 2 + 5$ which equals 11. Add up the $\frac{1}{4}$ and $\frac{3}{4}$ and you get 1. Finally, you have $\frac{1}{2}$ left, so $11 + 1 + \frac{1}{2} = 12 \frac{1}{2}$. Divide $12 \frac{1}{2}$ by 4 because there are 4 numbers and you get $3 \frac{1}{8}$. **Answer choice (A) is the correct answer.**
10. To find the average (same as mean) add up the number and divide by how many numbers you added up. Add the decimals and you get $1.4 + 7.6 = 9$. Now add the whole number parts of the fraction and you get $2 + 3 + 5 = 10$. Next add $\frac{2}{3}$ and $\frac{1}{3}$ which equals 1. Finally, we have $\frac{5}{8}$ leftover, so $9 + 10 + 1 + \frac{5}{8} = 20 \frac{5}{8}$. Divide $20 \frac{5}{8}$ by 5 because there are 5 numbers and you get $4 \frac{1}{8}$. **Answer choice (B) is the correct answer.**

Mean, Median, Mode, and Range Practice Set 2

1. The mode is the number that appears the most. 86 appears three times in the list which is more than any other number, so 86 is the mode. **Answer choice (D) is the correct answer.**
2. To find the median, line the numbers up in order from least to greatest and the median is the middle number: 4, 4, 6, 17, 18, 23, 29. Since we have seven numbers, the middle number will be the fourth number. **The fourth number is 17, so answer choice (C) is the correct answer.**
3. Since three out of the four answer choices involve the mean, start by finding the median, mode, range and mean of the data. Find the median by lining the numbers up in order from least to greatest and finding the middle number: 15, 15, 15, 16, 17, 18. Since we have six numbers, we have two middle numbers: 15 and 16. To find the median with two middle numbers, find the mean or average of the two numbers by adding the two middle numbers and dividing by two: $15 + 16 = 31$ and $31 \div 2 = 15.5$. The mode is 15 because it appears the most. The range is the largest number minus the smallest number which is 18 minus 15, so the range is 3. To find the mean, add up all of the numbers

and divide by how many numbers you added up: $15 + 18 + 15 + 15 + 16 + 17 = 96$. We added up 6 numbers, so divide 96 by 6 to get 16. **The mean is higher than the mode, so answer choice (A) is the correct answer.** The mean is not lower than the range, so answer choice (B) is incorrect. The median is not equal to the mode, so answer choice (C) is incorrect. The median is not equal to the mean, so answer choice (D) is incorrect.

4. To find the mean, add up all of the numbers and divide by how many numbers you added up: $80 + 53 + 22 + 57 + 100 + 30 + 8 = 350$. We added up 7 numbers, so divide 350 by 7 to get 50. **Answer choice (A) is the correct answer.**
5. To find the range, subtract the smallest number from the largest number: $87 - 19 = 68$. **Answer choice (C) is the correct answer.**
6. Start by finding the median, mode, and range of the data because they are easier than finding the mean. Then check the answer choices that involve median, mode, and range. Find the median by lining the numbers up in order from least to greatest and finding the middle number: 10, 20, 20, 20, 25, 25, 30, 30. Since we have eight numbers, we have two middle numbers: 20 and 25. To find the median with two middle numbers, find the mean or average of the two numbers by adding the two middle numbers and dividing by two: $20 + 25 = 45$ and $45 \div 2 = 22.5$. The mode is 20 because it appears the most. The range is the largest number minus the smallest number which is 30 minus 10, so the range is 20. Remember, we are looking for which answer choice is *false*. Answer choice (B) is true, so it is incorrect. Answer choice (C) is true, so it is incorrect. **Answer choice (D) is false, so answer choice (D) is the correct answer.**
7. To find the average (same as mean), add up all of the ages and divide by how many ages you added up: $50 + 12 + 12 + 45 + 6 = 125$. We added up 5 numbers, so divide 125 by 5 to get 25. **Answer choice (B) is the correct answer.** Remember to add the number 12 twice because Robert has twin daughters that are both 12 years old.
8. To find the average (same as mean) add up the numbers and divide by how many numbers you added up. First change the improper fractions to mixed numbers, so $3/2$ becomes $1 \frac{1}{2}$. Add up the whole numbers and you get $6 + 3 + 2 + 2 + 1$ which equals 14. Add up the $1/2$ and $1/2$ and you get 1. Add up the $1/8$, the $1/4$, and the $5/8$ and you get 1. Finally add $14 + 1 + 1 = 16$. Divide 16 by 5 because there are 5 numbers and you get $3 \frac{1}{5}$. **Answer choice (B) is the correct answer.**
9. We know that median is the middle number in a group of numbers lined up in order from least to greatest. We have 7 consecutive odd numbers and the median, or middle, is 13. Therefore, our numbers are 7, 9, 11, 13, 15, 17, 19. The smallest number in this group is 7. **Answer choice (A) is the correct answer.**
10. To find the average (same as mean) add up the numbers and divide by how many numbers you added up. It rained $9/10$ inches on Monday, $3/5$ inches on Tuesday, $3/5$ inches on Wednesday, $1 \frac{1}{10}$ inches on Thursday, $1 \frac{1}{10}$ inches on Friday, and $1 \frac{1}{10}$ inches on Saturday. Add up all the whole

numbers and you get $1 + 1 + 1$ which equals 3. Add $3/5 + 3/5 + 9/10 + 1/10 + 1/10 + 1/10$ to get $24/10$ or $2\ 4/10$. Finally add $3 + 2\ 4/10$ which equals $5\ 4/10$. Divide $5\ 4/10$ by 6 because there are 6 numbers and you get $9/10$. **Answer choice (B) is the correct answer.**

Charts, Graphs, and Tables Practice Set 1

1. Sean spent a total of \$21.50, so we can find the amount he spent on apples by subtracting the amounts he spent on oranges, avocados, and onions from \$21.50: $\$21.50 - \$5.50 - \$6.00 - \$3.75 = \$6.25$. Sean spent \$6.25 on apples and each apple cost \$1.25, so divide \$6.25 by \$1.25 to find the number of apples Sean bought: $\$6.25 \div \$1.25 = 5$ apples. **Answer choice (B) is the correct answer.**
2. Danny has 4 more ticket symbols than Greta in the pictogram. Since each ticket symbol represents 25 real tickets, multiply 4 by 25 to get that Danny has 100 more tickets than Greta. **Answer choice (D) is the correct answer.**
3. At 30 minutes, Julie's heart rate was 160 BPM and Lauren's was 113 BPM. Subtract 113 from 160 to get that Julie's heart rate was 47 BPM higher than Lauren's. **Answer choice (D) is the correct answer.**
4. The number of girls who chose yellow is 20, and the number of boys who chose red is 25. **Find the difference by subtracting: $25 - 20 = 5$. Answer choice (B) is the correct answer.**
5. The part of the circle that represents blue is less than one-half but greater than one-fourth. The only answer choice that is in between one-fourth and one-half is three-eighths. **Answer choice (B) is the correct answer.**
6. The price of one gallon of red paint from Paint With Me is \$2.75, so find the cost of 3 gallons of red paint by multiplying \$2.75 by 3 which equals \$8.75. **Answer choice (A) is the correct answer.**
7. The shaded part of the Venn Diagram represents people who live in New York that are not over the age of 13. Luis is the only person who fits this description because he lives in New York and is only 13 years old, not over 13 years old. **Answer choice (C) is the correct answer.**
8. Between April and June there was only a \$5,000 change in revenue. Between March and April there was a \$10,000 change. Between July and August there was a \$15,000 change. Between August and September there was a \$20,000 change. **Between April and June there was the least change in revenue, so answer choice (A) is the correct answer.**
9. The shaded part of the Venn Diagram represents shapes that have at least 4 sides, have sides with all the same lengths, and are NOT red. A blue regular pentagon is the only shape that fits this

description because a pentagon has 5 sides which is greater than 4, regular means all of the sides are equal, and it is blue which is NOT red. **Answer choice (D) is the correct answer.**

10. We are trying to find which answer choice is *false*. **Answer choice (C) is the correct answer because if you line the numbers up from least to greatest, the median (or middle number) is 40, and the mode (the number that shows up the most) is 40. The median and mode are equal, so answer choice (C) is false.** Answer choice (A) is incorrect because Alex spent 40 minutes on homework and Liz and Sofia combined spent 40 minutes on homework, so this is true. Answer choice (B) is incorrect because if you find the mean by adding up all of the numbers and dividing by five, the mean equals 38 which is between 35 and 40. Answer choice (D) is incorrect because the range of the data is the largest number minus the smallest number which is 60. Remy took 40 minutes, so the range is higher than the time Remy took.

Charts, Graphs, and Tables Practice Set 2

1. Each apple on the chart represents 10 apples picked. David has 4 apples on the chart, so multiply 4 times 10 to get 40 apples that David picked. Lucille has 5 apples on the chart, so multiply 5 times 10 to get 50 apples that Lucille picked. To find how many apples David and Lucille picked in total, add 40 plus 50 to get 90 apples. **Answer choice (D) is the correct answer.**
2. The fraction of women who do their own laundry is equal to the women who do their own laundry divided by the total amount of women. From the table we can see the total number of women is 30 and the women that don't do their own laundry is 12. So the fraction is $\frac{12}{30}$ which simplifies to $\frac{2}{5}$. **Answer choice (C) is the correct answer.**
3. We are looking for which answer choice is *true*. Answer choice (A) is incorrect because the difference between snowfall in Town A and Town C is 2 inches and the snowfall in Town D is 3 inches. Answer choice (B) is incorrect because the sum of the snowfall in Town A and Town D equals 13 inches and the sum of the snowfall in Town B and Town C equals 14 inches. Answer choice (C) is incorrect because the difference between the snowfall in Town C and Town B is 2 inches and the snowfall in Town D is 3 inches. **Answer choice (D) is the correct answer because the sum of the snowfall in Town B and Town D is 9 inches and the snowfall in Town A is 10 inches.**
4. To find how many pairs of shorts Bethany bought, we need to find how much money she spent on shorts. First find how much money Bethany spent on shirts, socks, and hats. Bethany bought 4 shirts for \$10 each, so multiply 4 by \$10 to get \$40. Bethany bought 8 pairs of socks for \$2 each, so multiply 8 by \$2 to get \$16. Bethany bought 1 hat for \$8, so multiply 1 by \$8 to get \$8. Now add up those totals: $\$40 + \$16 + \$8 = \64 . We know Bethany spent a total of \$112, so the amount she spent on shorts is equal to the total amount she spent minus what she spent on shirts, socks and hats. $\$112 - \$64 = \$48$. To find how many pairs of shorts Bethany bought, divide the money she spent on shorts by how much each pair costs. $\$48 \div \$12 = 4$, so **answer choice (B) is the correct answer.**

5. The part of the circle that represents rabbits is less than $\frac{1}{2}$ and bigger than $\frac{1}{8}$ so answer choices (A) and (D) are incorrect. **It looks too big to be $\frac{1}{5}$ so answer choice (C) is the correct answer.**
 6. According to the table we know that the temperature of bucket 1 after 20 minutes is 54 degrees and the temperature of bucket 3 after 20 minutes is 63 degrees. We are looking for the *difference* so that means subtraction. $63 - 54 = 9$, so answer choice (A) is the correct answer.
 7. According to the graph we know that the revenue in September was \$30,000 and the revenue in June was \$5,000. We are looking for the *difference* so that means subtraction. $\$30,000 - \$5,000 = \$25,000$, so answer choice (C) is the correct answer.
 8. The shaded part of the Venn Diagram represents animals that have four legs and wings. None of the animals that are choices fit into both of those categories. Fish don't have legs or wings, chickens have wings but only two legs and cats have four legs but don't have wings. **Because none of the animals fit the description, answer choice (D) is the correct answer.**
 9. According to the graph the number of 4th graders who like dogs is 25 and the number of 3rd graders who like fish is 15. We are looking for the *difference* so that means subtraction. $25 - 15 = 10$, so answer choice (A) is the correct answer.
 10. The shaded part of the Venn Diagram represents words that have 5 letters, have two vowels, and have the letter "T". **"Later" is the only answer that fits into all three categories, so answer choice (B) is the correct answer.**
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Naming Shapes Practice Set 1

1. **Answer choice (A) is the correct answer.** A triangle with exactly two sides is called an *isosceles triangle*. A *scalene triangle* has no equal sides. An *obtuse triangle* has one angle larger than 90 degrees. An *acute triangle* has three angles that are less than 90 degrees.
2. **Answer choice (A) is the correct answer.** A *square* is a rectangle with four equal sides. A *parallelogram* is a four sided shape with two pairs of opposite sides that are congruent and parallel. A *pentagon* is a five sided shape. A *trapezoid* is a four sided shape with one pair of parallel sides.
3. **Answer choice (B) is the correct answer.** A *hexagon* has six sides. A *pentagon* has five sides. An *octagon* has eight sides. A *heptagon* has seven sides.
4. **Answer choice (D) is the correct answer.** An *octagon* has eight sides. A *pentagon* has five sides. A *hexagon* has six sides. A *heptagon* has seven sides.

5. **Answer choice (B) is the correct answer.** A *parallelogram* is a four sided shape with two pairs of opposite sides that are congruent and parallel. A *rhombus* is a specific parallelogram that has all equal sides. A *trapezoid* is a four sided shape with one pair of parallel sides. A *pentagon* is a five sided shape. A *circle* has no sides.
6. **Answer choice (D) is the correct answer.** A *right triangle* is a triangle with one right angle. An *obtuse triangle* has one angle larger than 90 degrees. An *acute triangle* has three angles that are less than 90 degrees. An *equiangular triangle* has three equal angles that are each 60 degrees.
7. **Answer choice (D) is the correct answer.** A *square* is a specific type of rectangle that has four equal sides. A *rectangle* is a specific type of parallelogram with four right angles. A *parallelogram* is a specific type of quadrilateral with two pairs of opposite sides that are parallel and congruent. A *rhombus* is not a square because a *rhombus* does not need to have four right angles but a square does. A *square* is a rhombus.
8. **Answer choice (C) is the correct answer.** A *trapezoid* is a four sided shape with one pair of parallel sides. A *pentagon* is a five sided shape. A *parallelogram* is a four sided shape with two pairs of opposite sides that are congruent and parallel. A *rhombus* is a specific type of parallelogram that has all equal sides. A *rectangle* is a specific type of parallelogram with four right angles.
9. **Answer choice (D) is the correct answer.** A *quadrilateral* is a shape with four sides. A *trapezoid*, *kite*, and *rectangle* are all four sided shapes. A *pentagon* is a five sided shape.
10. **Answer choice (A) is the correct answer.** A *parallelogram* has four sides. A *pentagon* has five sides. An *octagon* has eight sides. A *heptagon* has seven sides.

Naming Shapes Practice Set 2

1. **Answer choice (A) is the correct answer.** A triangle with three equal sides is called an *equilateral triangle*. An *isosceles triangle* has exactly two equal sides. *Congruent* just means equal or identical in shape and size. A *scalene triangle* has no equal sides.
2. **Answer choice (B) is the correct answer.** A *scalene triangle* has no equal sides. An *isosceles triangle* has exactly 2 equal sides. An *equiangular triangle* is a triangle where all interior (inside) angles are equal. An *equilateral triangle* is a triangle with 3 equal sides.
3. **Answer choice (C) is the correct answer.** A *parallelogram* is a quadrilateral with 2 sets of parallel sides. A *rhombus*, *square* and *rectangle* all have two sets of parallel sides. A *trapezoid* has only one set of parallel sides.
4. **Answer choice (A) is the correct answer.** A *quadrilateral* is a shape with four sides. A *rhombus* has four sides. A *pentagon* has 5 sides. A *triangle* has 3 sides. A *circle* has no sides.

- 5. Answer choice (D) is the correct answer.** A *pentagon* has five sides. A *quadrilateral* has four sides. A *hexagon* has six sides. An *octagon* has eight sides.
 - 6. Answer choice (C) is the correct answer.** A *heptagon* has 7 sides. A *pentagon* has 5 sides. A *hexagon* has 6 sides. An *octagon* has 8 sides.
 - 7. Answer choice (A) is the correct answer.** A *rectangle* is a *quadrilateral* because it has four sides. A *trapezoid* is not a *parallelogram* because it only has one set of parallel sides. A *pentagon* has five sides and a *hexagon* has six sides. An *octagon* has 8 sides.
 - 8. Answer choice (D) is the correct answer.** A *rhombus* is a specific type of *parallelogram* with four equal sides. A *square* is a specific type of rectangle with four equal sides. A *trapezoid* is a quadrilateral with only one set of parallel sides. A *rectangle* is a specific type of parallelogram with four right angles.
 - 9. Answer choice (B) is the correct answer.** A *hexagon* has six sides. A *triangle* has three sides. A *rhombus* has four sides. A *pentagon* has five sides.
 - 10. Answer choice (D) is the correct choice.** A *square* is a specific type of rectangle, a *rectangle* is a specific type of parallelogram, and a *parallelogram* is a specific type of quadrilateral. A *pentagon* is a five-sided shape, so a *square* is not a *pentagon*.
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Basic Area and Perimeter Practice Set 1

- To find the area of a square, multiply the side lengths together. A square has equal sides, so the area of a square with a side length of 5 inches equals $5 \cdot 5$ which equals 25 square inches. **Answer choice (C) is the correct answer.**
- To find the perimeter of a rectangle, add up the lengths of all four sides: $7\text{ m} + 7\text{ m} + 12\text{ m} + 12\text{ m} = 38\text{ m}$. **Answer choice (B) is the correct answer.**
- To find the area of a triangle, multiply the base times the height and then divide by two. 6 ft times 8 ft equals 48 square feet. 48 square feet divided by 2 equals 24 square feet. **Answer choice (B) is the correct answer.**
- To find the perimeter, add up all of the side lengths: $2.5\text{ cm} + 5.4\text{ cm} + 6.3\text{ cm} = 14.2\text{ cm}$. **Answer choice (A) is the correct answer.**
- A square has all equal sides, and the perimeter is found by adding up all four sides. To find the side length of a square with a perimeter of 36 inches, divide 36 inches by four which equals 9 inches. **Answer choice (B) is the correct answer.**

6. To find the area of a rectangle, multiply the length times the width: 3 inches times 9 inches equals 27 square inches. **Answer choice (D) is the correct answer.**
7. To find the area of a trapezoid, add the bases together and divide by two. Then multiply the result by the height. The bases are 6 m and 12 m, so 6 plus 12 equals 18 and 18 divided by 2 equals 9. 9 times the height of 4 equals 36 square meters. **Answer choice (C) is the correct answer.**
8. A regular octagon has eight equal sides. The perimeter of a shape is found by adding up all of the side lengths. There are eight sides that are each 7 cm, so multiply 7 cm by 8 which equals 56 cm. **Answer choice (D) is the correct answer.**
9. Find the perimeter by adding up all of the side lengths: $4\text{ m} + 3\text{ m} + 7\text{ m} + 3\text{ m} + 2\text{ m} + 4\text{ m} = 23\text{ m}$. **Answer choice (D) is the correct answer.**
10. To find the perimeter of an irregular shape like this, think of it as a rectangle. Since all of the angles are right angles, the sum of the top two sides must equal the sum of the bottom two sides, so the lengths of the top and bottom are both 11 m. The sum of the left two sides must equal the sum of the right two sides, so the lengths of the left and right sides are both 12 m. Add up all of the sides: $11\text{ m} + 11\text{ m} + 12\text{ m} + 12\text{ m} = 46\text{ m}$. **Answer choice (D) is the correct answer.**

Basic Area and Perimeter Practice Set 2

1. A square has all equal sides, and the area is found by squaring (multiplying a number by itself) the side length. To find the side length of a square with an area of 64 square centimeters, take the square root of 64 square centimeters, which equals 8 cm. **Answer choice (A) is the correct answer.**
2. To find the area of a rectangle, multiply the length times the width: 4 centimeters times 9 centimeters equals 36 square centimeters. **Answer choice (D) is the correct answer.**
3. A square has all equal sides, and the perimeter is found by adding up all four sides. To find the perimeter of a square with a side length of 7 feet, just add $7\text{ ft} + 7\text{ ft} + 7\text{ ft} + 7\text{ ft}$, which equals 28 feet. **Answer choice (B) is the correct answer.**
4. Find the perimeter by adding up all of the side lengths: $7.4\text{ in} + 3\text{ in} + 3.5\text{ in} + 7.6\text{ in} + 11\text{ in} = 32.5\text{ in}$ in **Answer choice (B) is the correct answer.**
5. A regular hexagon has six equal sides. The perimeter of a shape is found by adding up all of the side lengths. In this case we know the perimeter is 48 centimeters, so we can divide 48 centimeters by the number of sides and get the answer. 48 centimeters divided by 6 equals 8 centimeters. **Answer choice (B) is the correct answer.**

6. To find the perimeter, add up all of the side lengths: $12\text{ ft} + 13\text{ ft} + 5\text{ ft} = 30\text{ ft}$. **Answer choice (A) is the correct answer.**
7. To find the perimeter of an irregular shape like this, think of it as a rectangle. Since all of the angles are right angles, the sum of the top side must equal the sum of the bottom three sides, so the lengths of the top and bottom are both 17 in. The sum of the left two sides must equal the sum of the right two sides, so the lengths of the left and right sides are both 8 in. Add up all of the sides: $17\text{ in} + 17\text{ in} + 8\text{ in} + 8\text{ in} = 50\text{ in}$. **Answer choice (D) is the correct answer.**
8. To find the area of a triangle, multiply the base times the height and then divide by two. 12 m times 11 m equals 132 square meters. 132 square meters divided by 2 equals 66 square meters. **Answer choice (C) is the correct answer.**
9. To find the area of a trapezoid, add the bases together and divide by two. Then multiply the result by the height. The bases are 8 ft and 10 ft , so 8 plus 10 equals 18 and 18 divided by 2 equals 9 . 9 times the height of 6 equals 54 square feet. **Answer choice (B) is the correct answer.**
10. To find the perimeter of a rectangle, add up the lengths of all four sides: $20\text{ in} + 20\text{ in} + 24\text{ in} + 24\text{ in} = 88\text{ in}$. **Answer choice (C) is the correct answer.**
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Area and Perimeter Word Problems Practice Set 1

1. Since the perimeter is 24 cm , this means the sum of all of the sides equals 24 . Let w represent the width of the rectangle. We know the top and bottom sides are each 8 cm , so $8 + 8 + w + w = 24$. This means $16 + 2w = 24$. Subtract 16 from both sides to get that $2w = 8$. Divide both sides by 2 to get $w = 4$. Now that we know the length is 8 cm and the width is 4 cm , multiply the length times width to find the area: $8\text{ cm} \cdot 4\text{ cm} = 32$ square cm. **Answer choice (B) is the correct answer.**
2. A square has four equal sides, so to find the area of a square we multiply the side length by the side length, or $s \cdot s$. Since the area is 36 sq in , we need to think of a number that equals 36 when multiplied by itself (or the square root of 36). $6 \cdot 6 = 36$, so the side length is 6 in . Now find the perimeter by multiplying the side length by 4 : $6\text{ in} \cdot 4 = 24\text{ in}$. **Answer choice (C) is the correct answer.**
3. The area of a triangle is equal to the base times the height divided by 2 . Let h represent the height of the triangle. Since the area is 24 and the base is 6 , $6 \cdot h \div 2 = 24$. Multiply both sides of the equation by 2 to get $6h = 48$. Divide both sides of the equation by 6 to get $h = 8\text{ ft}$. Now find the perimeter by adding up all of the side lengths: $6\text{ ft} + 8\text{ ft} + 10\text{ ft} = 24\text{ ft}$. **Answer choice (C) is the correct answer.**

4. The perimeter is equal to the sum of all of the sides. Since a square has four equal sides, the perimeter is equal to four times the side length. To find the side length, divide the perimeter of $12a$ by 4 which equals $3a$. **Answer choice (C) is the correct answer.**
5. A square has four equal sides, so to find the area of a square we multiply the side length by the side length, or $s \cdot s$. Since the area is 16 sq in, we need to think of a number that equals 16 when multiplied by itself (or the square root of 16). $4 \cdot 4 = 16$, so the side length is 4 in. If we double the side length, it is now 8 in. Find the area by multiplying 8 in by 8 in to get 64 sq in. **Answer choice (B) is the correct answer.**
6. The perimeter is equal to the sum of all of the sides. Since a square has four equal sides, the perimeter is equal to four times the side length. Therefore, the perimeter of the square equals 4 times 8 ft which equals 32 ft. Since the square and rectangle have the same perimeter, check each answer choice until you find one that has a perimeter of 32 ft. Answer choice (A) has a perimeter of 40 ft because $16 \text{ ft} + 16 \text{ ft} + 4 \text{ ft} + 4 \text{ ft} = 40 \text{ ft}$. Answer choice (A) is incorrect. Answer choice (B) has a perimeter of 16 ft because $6 \text{ ft} + 6 \text{ ft} + 2 \text{ ft} + 2 \text{ ft} = 16 \text{ ft}$. Answer choice (B) is incorrect. Answer choice (C) has a perimeter of 30 ft because $12 \text{ ft} + 12 \text{ ft} + 3 \text{ ft} + 3 \text{ ft} = 30 \text{ ft}$. Answer choice (C) is incorrect. Answer choice (D) has a perimeter of 32 ft because $11 \text{ ft} + 11 \text{ ft} + 5 \text{ ft} + 5 \text{ ft} = 32 \text{ ft}$. **Answer choice (D) is the correct answer.**
7. The perimeter of a triangle is equal to all three sides added up. We want to find the answer choice that could NOT be the dimensions. Check each answer choice until you find one that doesn't have a perimeter of 40 inches. Answer choice (A) has a perimeter of 40 inches because $10 \text{ in} + 15 \text{ in} + 15 \text{ in} = 40 \text{ in}$. Answer choice (A) is incorrect. Answer choice (B) has a perimeter of 40 in because $12 \text{ in} + 13 \text{ in} + 15 \text{ in} = 40 \text{ in}$. Answer choice (B) is incorrect. Answer choice (C) has a perimeter of 40 in because $8 \text{ in} + 17 \text{ in} + 15 \text{ in} = 40 \text{ in}$. Answer choice (C) is incorrect. Answer choice (D) has a perimeter of 38 in because $9 \text{ in} + 14 \text{ in} + 15 \text{ in} = 38 \text{ in}$. **Answer choice (D) is the correct answer.**
8. A square has all equal sides. To find the perimeter of the square, add up all four sides: $x + 4 + x + 4 + x + 4 + x + 4$. We have four x s, which equals $4x$, and $4 + 4 + 4 + 4$ equals 16. Therefore, the perimeter is $4x + 16$. **Answer choice (D) is the correct answer.**
9. The area of a rectangle is found by multiplying the length times the width. Let L represent the length of the rectangle, so $18x = 9 \cdot L$. Divide both sides of the equation by 9 to get that L equals $2x$ meters. **Answer choice (A) is the correct answer.**
10. A can of paint covers 10 square yards, and the problem gave us the dimensions of the wall in feet. First, change the dimensions of the wall into yards by dividing each by 3. Therefore, the wall measures 6 yards by 5 yards. Find the area of the wall by multiplying the dimensions: 6 yards \cdot 5 yards = 30 square yards. Since each can of paint covers 10 square yards, divide the area of the wall by 10: 30 square yards \div 10 square yards = 3 cans of paint. **Answer choice (A) is the correct answer.**
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Area and Perimeter Word Problems Practice Set 2

1. The formula for the area of a triangle is $A = \frac{1}{2}bh$. Plugging in the area and base of the triangle into the formula gives us $20 = \frac{1}{2}10h$ which simplifies to $20 = 5h$. To find h we can divide both sides by 5, which gives us $4 = h$. **Answer choice (C) is the correct answer.**
2. A rectangle with a perimeter of 56 means the sum of all its sides is equal to 56. **Answer choice (A) is the correct answer because $16 + 16 + 12 + 12 = 56$.** Answer choice (B) is incorrect because $7 + 7 + 8 + 8 = 30$. Answer choice (C) is incorrect because $26 + 26 + 30 + 30 = 112$. Answer choice (D) is incorrect because $15 + 15 + 11 + 11 = 52$.
3. To find the perimeter, we first need to find the length of the sides. We know one side is 9 cm, so let that equal the width or w . The formula for the area of a rectangle is $A = lw$. Plugging in 9 for w and 108 for A gives us $108 = 9l$. Dividing both sides by 9 gives us $12 = l$. Now that we have both side lengths, we can add them up to find the perimeter: $9 + 9 + 12 + 12 = 42$. **Answer choice (C) is the correct answer.**
4. We know the area of the triangle is “twice” the area of the square. This means the area of the square is half the area of the triangle. The area of the triangle is 72 square feet so the area of the square is $72/2$, which equals 36 square feet. A square has four equal sides, so to find the area of a square we multiply the side length by the side length, or $s \cdot s$. Since the area is 36 sq in, we need to think of a number that equals 36 when multiplied by itself (or the square root of 36). $6 \cdot 6 = 36$, so the side length is 6 in. Finally to find the perimeter of the square, multiply the side length by 4: $4 \cdot 6 = 24$. **Answer choice (B) is the correct answer.**
5. The formula for the area of a rectangle is $A = lw$. Plugging in $4b$ for w and 6 for l gives us $A = 4b \cdot 6$, which simplifies to $A = 24b$. **Answer choice (D) is the correct answer.**
6. The perimeter is equal to the sum of all of the sides. Since a square has four equal sides, the perimeter is equal to four times the side length. To find the side length, divide the perimeter of 64 by 4 which equals 16. Now to find the area of a square we multiply the side length by the side length, or $s \cdot s$. $16 \text{ in} \cdot 16 \text{ in} = 256$ square inches. **Answer choice (D) is the correct answer.**
7. First find the area of the rug by multiplying the dimensions: $12 \text{ feet} \cdot 8 \text{ feet} = 96$ square feet. The problem says the store charges \$3.25 per square foot, so multiply the area by the cost per square foot: $\$3.25 \cdot 96 \text{ square feet} = \312 . **Answer choice (D) is the correct answer.**
8. We know an isosceles triangle is a triangle with two equal length sides, so the side lengths are either 6 cm, 6 cm, and 8 cm or 8 cm, 8 cm, and 6 cm. Find the perimeter for both and check each answer choice. The perimeter of the first triangle is $6 \text{ cm} + 6 \text{ cm} + 8 \text{ cm}$ which equals 20 cm. The perimeter of the second triangle is $8 \text{ cm} + 8 \text{ cm} + 6 \text{ cm}$ which equals 22 cm. **Answer choice (B) is the only choice that matches one of our triangles, so answer choice (B) is the correct answer.**

9. The perimeter is equal to the sum of all of the sides. Since a square has four equal sides, the perimeter is equal to four times the side length. $4 \cdot 5x = 20x$. **Answer choice (A) is the correct answer.**
10. The perimeter is equal to the sum of all the sides. In this case the perimeter equals $x + 2x + (x + 1)$, which simplifies to $4x + 1$. **Answer choice (B) is the correct answer.**
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Shaded Area Practice Set 1

1. To find the shaded area, find the area of the outer rectangle and subtract the area of the white triangle. The area of the rectangle is $8 \cdot 10$ which equals 80 sq m. The height of the white triangle is the same as the height of the rectangle, so the area of the white triangle is $8 \cdot 10 \div 2$ which equals 40 sq m. Subtract 40 sq m from 80 sq m to get 40 sq m as the shaded area. **Answer choice (C) is the correct answer.**
2. There are 11 fully shaded squares and 2 squares that are half shaded. Therefore, there are 12 fully shaded squares. Since each square has an area of 2 square units, the total area is $12 \cdot 2$ which equals 24 square units. **Answer choice (D) is the correct answer.**
3. The area of the white garden is $9 \cdot 7$ which equals 63 sq m. The walkway is 1 m wide all around, so the dimensions of the outer rectangle are 11 m by 9 m. The area of the outer rectangle is $11 \cdot 9$ which equals 99 sq m. Find the area of the shaded region by subtracting the area of the garden from the area of the outer rectangle: $99 - 63 = 36$ sq m. **Answer choice (B) is the correct answer.**
4. The large square has a side length of 6 in, so the area is equal to $6 \cdot 6$ which equals 36 sq in. Each white square has a side length of 2 in, so the area of each white square is $2 \cdot 2$ which equals 4 sq in. Subtract the areas of the two white squares from the area of the large square: $36 - 4 - 4 = 28$ sq in. **Answer choice (C) is the correct answer.**
5. The area of the outer rectangle is $18 \cdot 16$ which equals 288 sq ft. The walkway is 2 ft wide all around, so the dimensions of the white swimming pool are 14 ft and 12 ft. The area of the white swimming pool is $14 \cdot 12$ which equals 168 sq ft. Find the area of the shaded region by subtracting the area of the swimming pool from the area of the outer rectangle: $288 - 168 = 120$ sq ft. **Answer choice (B) is the correct answer.**
6. If the perimeter of each square is 12 units, then the side length of each square is 3 units. This means the area of each square is 9 sq units. There are 12 shaded squares, so the total shaded area equals $9 \cdot 12$ which equals 108 square units. **Answer choice (C) is the correct answer.**

7. There are 5 shaded squares and the total area is 15 square units, so the area of each square is $15 \div 5$ which equals 3 sq units. There are 7 non-shaded squares, so the area of the non-shaded region is $7 \cdot 3$ which equals 21 sq units. **Answer choice (A) is the correct answer.**
8. The large triangle has a height of 6 ft and a base of 8 ft, so the area is $6 \cdot 8 \div 2$ which equals 24 sq ft. Since D is the midpoint of AB, that means DB is half of the length of AB, so DB is 3 ft long. Since E is the midpoint of BC, that means BE is half of the length of BC, so BE is 4 ft long. The area of the white rectangle is $3 \cdot 4$ which equals 12 sq ft. Find the shaded area by subtracting the area of the white rectangle from the area of the large triangle: $24 - 12 = 12$ sq ft. **Answer choice (A) is the correct answer.**
9. The large triangle has an area of 27 sq units and is broken up into 9 smaller triangles. The area of each small triangle is $27 \div 9$ which equals 3 sq units. Since 2 small triangles are shaded, the area of the shaded region equals $2 \cdot 3$ which equals 6 sq units. **Answer choice (C) is the correct answer.**
10. The perimeter of the outer square is 36 inches, so the side length of the outer square is 9 inches. Find the area of the outer square by multiplying $9 \cdot 9$ to get 81 sq inches. The perimeter of the inner square is 24 inches, so the side length of the inner square is 6 inches. Find the area of the inner square by multiplying $6 \cdot 6$ to get 36 sq inches. Find the shaded area by subtracting the area of the inner square from the area of the outer square: $81 - 36 = 45$ sq inches. **Answer choice (D) is the correct answer.**

Shaded Area Practice Set 2

1. To find the shaded area, find the area of the outer rectangle and subtract the area of the white triangle. The area of the rectangle is $9 \cdot 12$ which equals 108 sq ft. The problem tells us the base of the white triangle is 8 ft and we know the height of the triangle is 9 ft, so the area of the white triangle is $8 \cdot 9 \div 2$ which equals 36 sq ft. Subtract 36 sq ft from 108 sq ft to get 72 sq ft as the shaded area. **Answer choice (D) is the correct answer.**
2. There are 14 fully shaded squares and each square has an area of 1.5 square units. The total area is $14 \cdot 1.5$ which equals 21 square units. **Answer choice (B) is the correct answer.**
3. The area of the white garden is $12 \cdot 10$ which equals 120 sq yd. The walkway is 2 yd wide all around, so the dimensions of the outer rectangle are 16 yd by 14 yd. The area of the outer rectangle is $16 \cdot 14$ which equals 224 sq yd. Find the area of the shaded region by subtracting the area of the garden from the area of the outer rectangle: $224 - 120 = 104$ sq yd. **Answer choice (D) is the correct answer.**
4. The large square has a side length of 12 in, so the area is equal to $12 \cdot 12$ which equals 144 sq in. Each white square has a side length of 4 in, so the area of each white square is $4 \cdot 4$ which equals 16 sq in. Subtract the areas of the four white squares from the area of the large square: $144 - 16 - 16 - 16 - 16 = 80$ sq in. **Answer choice (A) is the correct answer.**

5. The area of the outer rectangle is $15 \cdot 11$ which equals 165 sq m. The path is 1 m wide all around, so the dimensions of the white swimming pool are 13 m and 9 m. The area of the white swimming pool is $13 \cdot 9$ which equals 117 sq m. Find the area of the shaded region by subtracting the area of the swimming pool from the area of the outer rectangle: $165 - 117 = 48$ sq m. **Answer choice (B) is the correct answer.**
6. If the perimeter of each square is 20 units, then the side length of each square is 5 units. This means the area of each square is 25 sq units. There are 10 shaded squares, so the total shaded area equals $25 \cdot 10$ which equals 250 square units. **Answer choice (D) is the correct answer.**
7. There are 15 total squares and the area of the entire figure is 90 square units, so the area of each square is $90 \div 15$ which equals 6 sq units. There are 6 shaded squares, so the area of the shaded region is $6 \cdot 6$ which equals 36 sq units. **Answer choice (C) is the correct answer.**
8. The rectangle has side lengths of 10 ft and 8 ft, so the area is $10 \cdot 8$ which equals 80 sq ft. Since E is the midpoint of AB, that means EB is half of the length of AB, so EB is 5 ft long. Since F is the midpoint of BC, that means BF is half the length of BC, so BF is 4 ft long. The area of the top right white triangle is $5 \cdot 4 \div 2$ which equals 10 sq ft. Since H is the midpoint of AD, that means HD is half the length of AD, so HD is 4 ft long. Since G is the midpoint of DC, that means DG is half the length of DC, so DG is 5 ft long. Because the bottom left white triangle has the same base and height as the top right white triangle, it will have the same area of 10 sq ft. Find the shaded area by subtracting the area of the white triangles from the area of the rectangle: $80 - 10 - 10 = 60$ sq ft. **Answer choice (C) is the correct answer.**
9. The non shaded region of the large triangle has an area of 20 sq units and there are 5 smaller non shaded triangles. The area of each smaller triangle is $20 \div 5$ which equals 4 sq units. Since 4 small triangles are shaded, the area of the shaded region equals $4 \cdot 4$ which equals 16 sq units. **Answer choice (B) is the correct answer.**
10. The side length of the smaller square is 5 ft, so the area of the smaller square is 25 sq ft. Find the area of the larger square by adding the area of the smaller square to the area of the shaded region: 25 sq ft + 11 sq ft = 36 sq ft. Since the area of the larger square is 36 sq ft, we need to think of a number that equals 36 when multiplied by itself (or the square root of 36). $6 \cdot 6 = 36$, so the side length is 6 ft. **Answer choice (B) is the correct answer.**
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Properties of Shapes and Figures Practice Set 1

1. A line of symmetry is a line over which a shape can be folded such that all of the lines line up perfectly. In an equilateral triangle, there are 3 lines of symmetry (one line coming out of each vertex). **Answer choice (B) is the correct answer.**

2. Parallel lines are lines that, when extended, never touch. **Answer choice (A) has one pair of parallel lines (the top and bottom), so answer choice (A) is the correct answer.** Answer choice (B) has two pairs of parallel lines (the top and bottom and the left and right), so answer choice (B) is incorrect. Answer choice (C) has two pairs of parallel lines (the top and bottom and the left and right), so answer choice (C) is incorrect. Answer choice (D) has no pairs of parallel lines, so answer choice (D) is incorrect.
3. A line of symmetry is a line over which the shape can be folded such that all of the lines line up perfectly. The letter E has one line of symmetry (horizontally down the middle), and the letter O has two lines of symmetry (horizontally down the middle and vertically down the middle), so answer choice (A) is incorrect. The letter W has one line of symmetry (vertically down the middle), and the letter G has no lines of symmetry, so answer choice (B) is incorrect. The letter L has no lines of symmetry, and the letter A has one line of symmetry (vertically down the middle), so answer choice (C) is incorrect. **The letter T has one line of symmetry (vertically down the middle), and the letter Y has one line of symmetry (vertically down the middle), so answer choice (D) is the correct answer.**
4. A line of symmetry is a line over which a shape can be folded such that all of the lines line up perfectly. In answer choice (A) there is one line of symmetry (vertically down the middle), so answer choice (A) is incorrect. **Answer choice (B) has four lines of symmetry (vertically down the middle, horizontally down the middle, and through both diagonals), so answer choice (B) is the correct answer.** Answer choice (C) has two lines of symmetry (through both diagonals), so answer choice (C) is incorrect. Answer choice (D) has one line of symmetry (through the right angle perpendicular to the side across from it), so answer choice (D) is incorrect.
5. Congruent figures are figures that have the same exact shape and size: they have the exact same side lengths and angles but can have a different orientation. **The two figures in answer choice (D) are exactly the same, just rotated, so answer choice (D) is the correct answer.**
6. Congruent figures are figures that have the same exact shape and size: they have the exact same side lengths and angles but can have a different orientation. The two figures shown are congruent because they are the same exact shape and size, just different orientations. **Answer choice (A) is the correct answer.**
7. Similar shapes are the exact same shapes but different sizes. The two figures shown are similar because they are both the same exact shape but different sizes. **Answer choice (C) is the correct answer.**
8. Perpendicular lines are lines that form a right angle. Answer choices (A), (B), and (C) have no lines that form right angles, so these answer choices are incorrect. **Answer choice (D) has one pair of perpendicular lines (the vertical and horizontal lines), so answer choice (D) is the correct answer.**

9. *Edges* are lines on the outside of a shape that connect two vertices. The cube shown has 4 edges on the top, 4 edges on the bottom, and 4 vertical edges. In total, the cube has 12 edges. **Answer choice (C) is the correct answer.**
10. *Faces* are the individual flat surfaces of a 3D object. The pyramid has 1 face on the bottom and 3 faces standing up. In total, the pyramid has 4 faces. **Answer choice (B) is the correct answer.**

Properties of Shapes and Figures Practice Set 2

1. A line of symmetry is a line over which a shape can be folded such that all of the lines line up perfectly. In a square, there are 4 lines of symmetry (one line coming out of each vertex and one line coming out of the midpoint of each side). **Answer choice (B) is the correct answer.**
2. A line of symmetry is a line over which a shape can be folded such that all of the lines line up perfectly. **In answer choice (A) there are no lines of symmetry, you cannot fold the shape in any way so that all of the lines line up perfectly, so answer choice (A) is the correct answer.** Answer choice (B) has two lines of symmetry (diagonally down the middle both ways), so answer choice (B) is incorrect. Answer choice (C) has one line of symmetry (horizontally down the middle), so answer choice (C) is incorrect. Answer choice (D) has four lines of symmetry (one from every vertex through the center), so answer choice (D) is incorrect.
3. A line of symmetry is a line over which the shape can be folded such that all of the lines line up perfectly. The letter P has no lines of symmetry, and the letter M has one line of symmetry (vertically down the middle), so answer choice (A) is incorrect. The letter D has one line of symmetry (horizontally down the middle), and the letter X has two lines of symmetry (vertically down the middle and horizontally down the middle), so answer choice (B) is incorrect. The letter B has one line of symmetry (horizontally down the middle), and the letter L has no lines of symmetry, so answer choice (C) is incorrect. **The letter H has two lines of symmetry (vertically down the middle and horizontally down the middle), and the letter I has two lines of symmetry (vertically down the middle and horizontally down the middle), so answer choice (D) is the correct answer.**
4. Perpendicular lines are lines that form a right angle. Answer choices (A), (B), and (D) all have lines that form right angles, so these answer choices are incorrect. Answer choice (A) has 12 pairs of perpendicular lines (one at each vertex). Answer choice (B) has 4 pairs of perpendicular lines (one at each vertex). Answer choice (D) has one pair of perpendicular lines (the vertical and horizontal lines) **Answer choice (C) has no perpendicular lines, so answer choice (C) is the correct answer.**
5. Similar shapes are the exact same shapes but different sizes. **The two figures in answer choice (A) are the exact same shape, just different sizes, so answer choice (A) is the correct answer.**

6. Parallel lines are lines that, when extended, never touch. Answer choice (A) has one pair of parallel lines (the top and bottom), so answer choice (A) is incorrect. Answer choice (B) has no pairs of parallel lines, so answer choice (B) is incorrect. **Answer choice (C) has two pairs of parallel lines (the top and bottom and the left and right), so answer choice (C) is the correct answer.** Answer choice (D) has no pairs of parallel lines, so answer choice (D) is incorrect.
7. The two figures do not have the same size or exact shape so answer choices (A) and (B) are incorrect because the figures are not congruent or similar. Two figures can not be parallel to each other as this is a property of lines, so answer choice (C) is incorrect. **Since none of the first three answer choices are correct, answer choice (D) is the correct answer.**
8. *Vertices* are points on a shape or 3D figure where two or more lines converge. The cube shown has 4 vertices on top and 4 vertices on the bottom, so it has 8 vertices in total. **Answer choice (C) is the correct answer.**
9. Congruent figures are figures that have the same exact shape and size: they have the exact same side lengths and angles but can have a different orientation. The two figures shown are congruent because they are the same exact shape and size, just different orientations. **Answer choice (B) is the correct answer.**
10. *Faces* are the individual flat surfaces of a 3D object. The triangular prism has 1 face on the bottom, 1 face of each side, and 1 face at each end. In total, the triangular prism has 5 faces. **Answer choice (B) is the correct answer.**
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Coordinate Geometry Practice Set 1

1. Coordinate points are written in the form (x, y) , so the x coordinate comes first. Point A is at -4 on the x -axis and 3 on the y -axis, so its coordinates are $(-4, 3)$. **Answer choice (D) is the correct answer.**
2. Coordinate points are written in the form (x, y) , so the x coordinate comes first. This means point W is originally at 7 on the x -axis and -5 on the y -axis. If it is moved 4 units left, we subtract 4 from the x coordinate: $7 - 4 = 3$. If it is moved 3 units up, we add 3 to the y coordinate: $-5 + 3 = -2$. **The new coordinates are $(3, -2)$, so answer choice (C) is the correct answer.**
3. Coordinate points are written in the form (x, y) , so the x coordinate comes first. When a point is flipped over the y -axis, the y coordinate stays the same and the x coordinate changes signs. This is because we are flipping point (A) from the top right of our graph to the top left. The new coordinates are $(-5, 1)$. **Answer choice (A) is the correct answer.**

4. If you plot and connect the four points on a coordinate grid, you should get a four sided shape with a horizontal line on the top, a horizontal line on the bottom, a vertical line on the right, and a slanted line on the left. This forms a trapezoid which is a four sided shape with only one pair of parallel lines (the top and bottom in this case). **Answer choice (A) is the correct answer.**
5. Coordinate points are written in the form (x, y) , so the x coordinate comes first. We are looking for a point located at $(4, -1)$, so the x coordinate is 4 and the y coordinate is -1. Point B is at 4 on the x -axis and -1 on the y -axis, so point B is located at $(4, -1)$. **Answer choice (B) is the correct answer.**
6. If you plot and connect the three points on a coordinate grid, you will get a right triangle because the line connecting the points $(-2, 3)$ and $(-2, 0)$ is a vertical line, and the line connecting the points $(-2, 0)$ and $(4, 0)$ is a horizontal line. **Answer choice (D) is the correct answer.**
7. If you plot and connect the points, you will get a triangle with a base of 4 units and a height of 2 units. Multiply the base times the height and divide by two to find the area: $4 \cdot 2 \div 2 = 4$ square units. **Answer choice (A) is the correct answer.**
8. Since Eden can only move left, right, up, and down, the fastest path from A to B is to go down 3 units and to the right 4 units. The order of her movements does not matter; the shortest distance will always be 7 units. **Answer choice (B) is the correct answer.**
9. After being translated 2 units down and 3 units right, point K has coordinates $(-6, 1)$. To find the starting coordinates of points K, we need to perform the reverse steps: move 2 units up and 3 units left. To move 2 units up, add 2 to the y coordinate, so now the y coordinate is 3. To move 3 units left, subtract 3 from the x coordinate, so now the x coordinate is -9. The starting coordinates of points K were $(-9, 3)$. **Answer choice (C) is the correct answer.**
10. The opposite sides of a rectangle are congruent and parallel. The top left coordinate is 5 units above the bottom left coordinate, so the fourth coordinate has to be 5 units above the bottom right coordinate. The bottom right coordinate is located at $(4, -3)$, so if you go up 5 units, the fourth coordinate will be at $(4, 2)$. **Answer choice (D) is the correct answer.**

Coordinate Geometry Practice Set 2

1. Coordinate points are written in the form (x, y) , so the x coordinate comes first. Point C is at 2 on the x -axis and -3 on the y -axis, so its coordinates are $(2, -3)$. **Answer choice (C) is the correct answer.**
2. Coordinate points are written in the form (x, y) , so the x coordinate comes first. This means point E is originally at 5 on the x -axis and 8 on the y -axis. If it is moved 3 units down, we subtract 3 from the y coordinate: $8 - 3 = 5$. If it is moved 2 units right, we add 2 to the x coordinate: $5 + 2 = 7$. **The new coordinates are $(7, 5)$, so answer choice (A) is the correct answer.**

3. Coordinate points are written in the form (x, y) , so the x coordinate comes first. When a point is flipped over the x -axis, the x coordinate stays the same and the y coordinate changes signs. This is because we are flipping point (B) from the bottom right of our graph to the top right. The new coordinates are $(5, 7)$. **Answer choice (A) is the correct answer.**
 4. Coordinate points are written in the form (x, y) , so the x coordinate comes first. We are looking for a point located at $(3, -3)$, so the x coordinate is 3 and the y coordinate is -3. Point S is at 3 on the x -axis and -3 on the y -axis, so point S is located at $(3, -3)$. **Answer choice (C) is the correct answer.**
 5. Coordinate points are written in the form (x, y) , so the x coordinate comes first. If Point B is 5 units to the right of Point A, that means its x coordinate is 5 greater than the x coordinate of Point A. Point A has an x coordinate of -3, so the x coordinate of Point B is $-3 + 5$ which equals 2. Point B is also 3 units left of Point C, which means the x coordinate of Point C is 3 greater than the x coordinate of Point B. Point B has an x coordinate of 2, so the x coordinate of Point C is $2 + 3$ which equals 5. **Answer choice (B) is the only answer with 5 as its x coordinate, so answer choice (B) is the correct answer.**
 6. If you plot and connect the points, you will get a rectangle with a length of 7 units and a width of 2 units. A rectangle has two sets of equal sides, so to find the perimeter add all 4 sides together: $7 + 7 + 2 + 2 = 18$ units. **Answer choice (C) is the correct answer.**
 7. If you plot and connect the three points on a coordinate grid, you will get an obtuse triangle because the line connecting the points $(-1, 4)$ and $(-1, 2)$ and the line connecting points $(-1, 2)$ and $(5, 0)$ form an obtuse angle at their vertex. **Answer choice (D) is the correct answer.**
 8. A trapezoid is a quadrilateral with only one pair of parallel sides. The only answer choice that will create one set of parallel sides when plotted is $(4, 3)$ because that will create a horizontal line from point $(-3, 3)$ which will be parallel to the bottom line of the trapezoid. **Answer choice (B) is the correct answer.**
 9. If you plot and connect the four points on a coordinate grid, you should get a four sided shape with a horizontal line on the top, a horizontal line on the bottom, a slanted line on the right, and a slanted line on the left. Both pairs of lines are parallel (the 2 horizontal lines and the 2 slanted lines). This forms a parallelogram which is a four sided shape with equal and parallel opposite sides. **Answer choice (D) is the correct answer.**
 10. Since Katrina can only move left, right, up, and down, the fastest path from X to Z is to go up 8 units and to the left 6 units. The order of her movements does not matter; the shortest distance will always be 14 units. **Answer choice (C) is the correct answer.**
-

Volume, Surface Area, and 3D Shapes Practice Set 1

1. To find the volume of a cube, cube the side length (multiply the side length by itself three times): $3 \cdot 3 \cdot 3 = 27$ cubic inches. **Answer choice (B) is the correct answer.**
2. First, we need to find the side length of the cube. If the volume of the cube is 8 cubic feet, we need to find a number that when cubed equals 8. 2 cubed, or $2 \cdot 2 \cdot 2$, equals 8. So the side length of the cube is 2 ft. To find the surface area of a figure, add up the area of each face. A cube has 6 identical faces, so find the area of one face by multiplying the side length by the side length: $2 \cdot 2 = 4$ sq ft. Multiply this by 6 (because there are 6 identical faces): $4 \cdot 6 = 24$ sq ft. **Answer choice (C) is the correct answer.**
3. To find the surface area of a figure, add up the area of each face. In a rectangular prism, the areas of the top face and bottom face are the same, the areas of the left face and right face are the same, and the areas of the front face and the back face are the same. This means the formula for the surface area of rectangular prism is $SA = 2 \cdot l \cdot w + 2 \cdot l \cdot h + 2 \cdot w \cdot h$, where l is the length, w is the width, and h is the height. The problem didn't specify which dimensions were which, so let's say the height is 1 in, the width is 4 in, and the length is 7 in. Plug the dimensions into the formula to find the surface area: $SA = 2 \cdot 7 \cdot 4 + 2 \cdot 7 \cdot 1 + 2 \cdot 4 \cdot 1 = 56 + 14 + 8 = 78$ square inches. **Answer choice (D) is the correct answer.**
4. The net shows us that two of our faces are circles. The only shape listed that has two circular faces is a cylinder. The rectangular part of the net is wrapped up to form the middle portion of the cylinder. **Answer choice (A) is the correct answer.**
5. To find the volume of a rectangular prism, multiply all of the dimensions: $3 \cdot 2 \cdot 7 = 42$ cubic cm. **Answer choice (C) is the correct answer.**
6. A pyramid is a 3D figure that has a base and three or more triangular sides that meet at a top point. The figure shown meets this criteria, so it's a pyramid. **Answer choice (A) is the correct answer.**
7. The large cube measures 3 small cubes wide, 3 small cubs long, and 3 small cubes tall. Find the number of small cubes that can fit inside the large cube by multiplying $3 \cdot 3 \cdot 3$ which equals 27. Each small cube has a volume of 4 cubic feet, so the volume of the larger cube is $4 \cdot 27$ which equals 108 cubic ft. **Answer choice (C) is the correct answer.**
8. The rectangular prism measures 4 cubes long, 2 cubes wide, and 3 cubes tall. Find the total number of cubes by multiplying $4 \cdot 2 \cdot 3$ which equals 24. Each small cube has a volume of 1.5 cubic cm, so the volume of the rectangular prism is $24 \cdot 1.5$ which equals 36 cubs cm. **Answer choice (C) is the correct answer.**
9. The large cube measures 3 small cubes wide, 3 small cubs long, and 3 small cubes tall. Find the number of small cubes that can fit inside the large cube by multiplying $3 \cdot 3 \cdot 3$ which equals 27.

The large cube has a volume of 54 cubic inches, so the volume of each small cube is $54 \div 27$ which equals 2 cubic inches. **Answer choice (B) is the correct answer.**

10. If we fold the cardboard on the dotted lines, the dimensions of the box are 4 in wide (because we took 2 in off of each side), 11 in long (because we took 2 inches off of each side), and 2 in tall (because the dotted lines are each 2 in). The volume of this box is $4 \cdot 11 \cdot 2$ which equals 88 cubic inches. **Answer choice (A) is the correct answer.**

Volume, Surface Area, and 3D Shapes Practice Set 2

1. To find the surface area of a figure, add up the area of each face. A cube has 6 identical faces, so find the area of one face by multiplying the side length by the side length: $4 \cdot 4 = 16$ sq ft. Multiply this by 6 (because there are 6 identical faces): $16 \cdot 6 = 96$ sq ft. **Answer choice (C) is the correct answer.**
2. First, we need to find the side length of the cube. If the surface area of the cube is 54 sq cm, we need to find the area of one face of the cube. A cube has 6 identical faces, so to find the area of one face, divide the surface area by 6: $54 \div 6 = 9$ sq cm. Now that we have the area of one face of the cube, we need to find a number that when squared (multiplied by itself) is 9. 3 squared or $3 \cdot 3 = 9$, so the side length of the cube is 3 cm. Finally to find the volume, cube the side length (multiply the side length by itself three times): $3 \cdot 3 \cdot 3 = 27$ cubic cm. **Answer choice (B) is the correct answer.**
3. To find the volume of a rectangular prism, multiply all of the dimensions: $5 \cdot 3 \cdot 6 = 90$ cubic km. **Answer choice (C) is the correct answer.**
4. A cylinder is a 3D figure with 2 circular bases and a curved surface. The figure shown meets this criteria, so it is a cylinder. **Answer choice (A) is the correct answer.**
5. To find the surface area of a figure, add up the area of each face. In a rectangular prism, the areas of the top face and bottom face are the same, the areas of the left face and right face are the same, and the areas of the front face and the back face are the same. This means the formula for the surface area of rectangular prism is $SA = 2 \cdot l \cdot w + 2 \cdot l \cdot h + 2 \cdot w \cdot h$, where l is the length, w is the width, and h is the height. The problem didn't specify which dimensions were which, so let's say the height is 4 in, the width is 4 in, and the length is 8 in. Plug the dimensions into the formula to find the surface area: $SA = 2 \cdot 8 \cdot 4 + 2 \cdot 8 \cdot 4 + 2 \cdot 4 \cdot 4 = 64 + 64 + 32 = 160$ square inches. **Answer choice (D) is the correct answer.**
6. The net shows us that two of our faces are squares. The only shape listed that has two square faces is a rectangular prism. The other rectangular faces of the net are folded up to make the side faces of the rectangular prism. **Answer choice (A) is the correct answer.**
7. The large cube measures 3 small cubes wide, 3 small cubes long, and 3 small cubes tall. Find the number of small cubes that can fit inside the large cube by multiplying $3 \cdot 3 \cdot 3$ which equals 27.

Each small cube has a volume of 2.5 cubic feet, so the volume of the larger cube is $2.5 \cdot 27$ which equals 67.5 cubic ft. **Answer choice (B) is the correct answer.**

8. First, we need to find the side length of the cube. If the volume of the cube is 27 cubic inches, we need to find a number that when cubed equals 27. 3 cubed, or $3 \cdot 3 \cdot 3$, equals 27. So the side length of the cube is 3 in. The cube is shaded on two of its faces, so to find the shaded area, find the area of one face and multiply it by 2. Find the area of one face by multiplying the side length by the side length: $3 \cdot 3 = 9$ sq in. Multiply this by 2 to find the shaded area: $9 \cdot 2 = 18$ sq in. **Answer choice (C) is the correct answer.**
9. First, we need to find the side length of the small cube. If the area of a base of the small cube is 4 sq cm, we need to find a number that when squared equals 4. 2 squared, or $2 \cdot 2$, equals 4. So the side length of the cube is 2 cm. The large cube has a side length of 4 cm, so the large cube measures 2 small cubes wide, 2 small cubes long, and 2 small cubes tall. Find the number of small cubes that can fit inside the large cube by multiplying $2 \cdot 2 \cdot 2$ which equals 8. **Answer choice (C) is the correct answer.**
10. First, we need to find the side length of the larger cube. If the surface area of the larger cube is 54 sq cm, we need to find the area of one face of the cube. A cube has 6 identical faces, so to find the area of one face, divide the surface area by 6: $54 \div 6 = 9$ sq cm. Now that we have the area of one face of the cube, we need to find a number that when squared (multiplied by itself) is 9. 3 squared or $3 \cdot 3 = 9$, so the side length of the larger cube is 3 cm. The large cube measures 3 small cubes wide, 3 small cubes long, and 3 small cubes tall, so the side length of the small cube is $3 \div 3$ which equals 1. Finally, to find the surface area of the small cube, find the area of one face of the cube and multiply that by 6. Find the area of one face of the small cube by multiplying the side length by the side length: $1 \cdot 1 = 1$ sq in. Now multiply that area by 6 to find the surface area: $1 \cdot 6 = 6$ sq in. **Answer choice (B) is the correct answer.**
-

Spatial Reasoning Practice Set 1

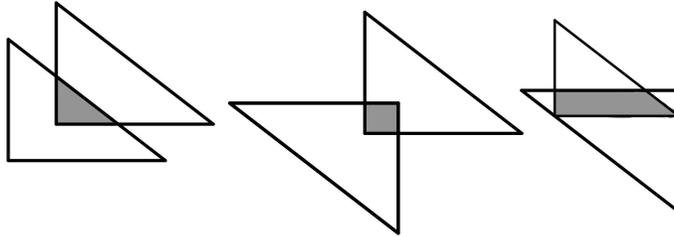
1. There are 8 small triangles in the figure and 2 larger triangles (made up of 4 small triangles) in the figure, so there are 10 triangles in total. **Answer choice (C) is the correct answer.**
2. If you cut a rectangle diagonally going through opposite vertices, you will create two triangles. If you cut a rectangle vertically down the middle or horizontally down the middle, you will create two rectangles. If you cut a triangle diagonally but not hitting any vertices, you will create two trapezoids. **Answer choice (D) is the correct answer.**
3. If the perimeter of each small square is 20 cm, then the side length of each small square is 5 cm (find the side length by dividing the perimeter by four). The large square has sides that are twice as long

as the sides of the small square, so the side length of the large square is 10 cm. This means the perimeter of the large square is 40 cm. **Answer choice (B) is the correct answer.**

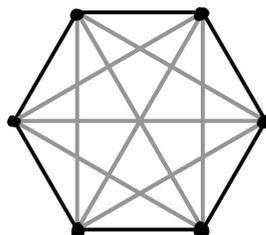
4. If we complete the diagrams ourselves and make a 4 by 4 square, we see that we need 7 squares: 1 row of 3 on the bottom with 2 rows of 2 above it on the right. **Answer choice (A) is the only choice with 7 squares, so answer choice (A) is the correct answer.**
5. Since Y is in between X and Z, this means that $XY + YZ = XZ$. Using fact families, we can write this as $XZ - XY = YZ$. The length of XZ is b and the length of XY is a , so the length of YZ equals $b - a$. **Answer choice (A) is the correct answer.**
6. If we draw lines from K to the vertex directly horizontal to K, and to the vertex below that, we will have two lines that split the figure into 3 triangles. **Answer choice (B) is the correct answer.**
7. We can only move up and left. We can move up from G and then all the way to the left to F. We can move all the way left from G and then up to F. We can move halfway left from G, all the way up, and then to the left to F. This is a total of 3 ways. **Answer choice (B) is the correct answer.**
8. If we just flip the figure over line n , the orientations of the triangles will not match the original figure, so answer choice (A) is incorrect. If we just flip the figure over line m , the top triangle will move below line m to the right of line l , and the bottom triangle will move above line m to the left of line l . This doesn't match the original figure, so answer choice (B) is incorrect. If we flip the figure over line l , the top triangle will move to the left of line l above line m , and the bottom triangle will move to the right of line l below line m . If we then flip the new figure over line m , the figure will match the original figure. **So answer choice (C) is the correct answer.** If we flip the figure over line n after flipping it over line l , most of the top triangle will still be in the top left quadrant and most of the bottom triangle will still be in the bottom right triangle. This doesn't match the original figure, so answer choice (D) is incorrect.
9. Be careful! Answer choice (A) completes the figure to make a *rectangle* NOT a square, so answer choice (A) is incorrect. If we draw in the rest of the figure to make a 5 by 5 square, we will need to add 12 squares: a bottom row with 5 squares, a second row above it with 3 squares lined up on the left, and two rows above that with 2 squares lined up on the left. **Answer choice (C) is the only figure with 12 squares, so answer choice (C) is the correct answer.**
10. A *translation* is when a shape is moved up, down, left, and/or right. The shape's size and orientation stays the same during a translation. In answer choices (A), (B), and (C) the orientations of the white and shaded trapezoids are not the same, so these answer choices are incorrect. **Answer choice (D) is correct because the white trapezoid is the gray trapezoid translated down.**

Spatial Reasoning Practice Set 2

- There are 4 small squares (squares are a special type of rectangle) in the figure, 4 medium rectangles made up of 2 small squares each (2 vertical and 2 horizontal), and one large square made up of all 4 small squares in the figure, so there are 9 rectangles in total. **Answer choice (D) is the correct answer.**
- Answer choice (D) is the correct answer.** See image below to see how a square, triangle, and trapezoid can be made from overlapping two right triangles.



- If the perimeter of each small square is 4 in, then the side length of each small square is 1 in (find the side length by dividing the perimeter by four). To find the perimeter of the entire figure, count how many sides of the smaller squares make up the perimeter of the figure. There are 12 sides of the smaller squares that make up the perimeter of the figure. Now multiply the side length of the smaller square by 12 to find the perimeter of the figure: $1 \cdot 12 = 12$ in. **Answer choice (B) is the correct answer.**
- Be careful! Answer choice (A) completes the figure to make a *rectangle* NOT a square, so answer choice (A) is incorrect. If we complete the diagram ourselves and make a 4 by 4 square, we see that we need 7 squares: 1 row of 4 on the top, 1 row of 2 below that in the middle, and 1 row of 1 below that one space over from the right. **Answer choice (C) is the only choice that fits that description, so answer choice (C) is the correct answer.** Answer choice (B) has 7 squares, but they are not in the right positions to complete the square.
- Since CD is the same length as AB, we know the length of CD equals x . The length of AD equals the length of AB plus the length of BC plus the length of AD. This means the length of AD equals $x + y + x$ which simplifies to $2x + y$. **Answer choice (A) is the correct answer.**
- Answer choice (C) is the correct answer.** See image below to see how to draw all of the lines between non-consecutive vertices. Non-consecutive means any vertices that are not right next to each other



7. We can only move right and down. We can move all the way down from A and then all the way to the right to B. We can move all the way right from A and then all the way down to B. We can move halfway right from A, all the way down, and then to the right to B. We can move halfway right from A, halfway down, right again, and down again to B. We can move halfway down from A, all the way right, and then down to B. We can move half way down from A, halfway right, down again, and then right again to B. This is a total of 6 ways. **Answer choice (D) is the correct answer.**
8. **If we just flip the figure over line r , the orientations and placements of the diamonds will match the original figure, so answer choice (A) is the correct answer.** If we just flip the figure over line p , the top diamond will move to the left of line p and stay above line q , and the bottom diamond will move to the right of line p and stay below line q . This doesn't match the original figure, so answer choices (B) and (D) are incorrect because they both contain flipping over line p in their answer. If we just flip the figure over line q , the top diamond will move below line q and stay to the right of line p , and the bottom diamond will move above line q and stay to the left of line p . This doesn't match the original figure, so answer choice (C) is incorrect.
9. If we draw in the rest of the figure to make a 5 by 5 square, we will need to add 11 squares: a bottom row with 4 squares, a second row above it with 3 squares lined up on the left, and two rows above that with 2 squares lined up on the left. **Answer choice (A) is the only figure with 11 squares, so answer choice (A) is the correct answer.**
10. A *reflection* is when a shape is flipped across a line. The shape's size stays the same during a reflection, but its orientation is mirrored or opposite. Answer choice (B) shows a reflection of the trapezoid over the y -axis. The size stays the same but the orientation is opposite, like a mirror image. **Answer choice (B) is the correct answer.**

Reading Chapter Answer Explanations

Reading Passage 1

1. The main purpose of the story is to tell what happened when a child found a lost dog, Risa. The passage talks about when the narrator found the dog, how the narrator’s parents responded to the narrator finding the dog, how the narrator went about trying to find the dog’s owner, and how the narrator ultimately adopted the dog. While the passage mentions the Humane Society, nowhere in the passage was the Humane Society promoted, so answer choice (A) is incorrect. While the passage talks about how the narrator handled finding a lost dog, the passage was not informing readers on the proper way to care for a lost dog, so answer choice (B) is incorrect. The passage does not give any warnings to readers about theft; the passage does not talk about theft, so answer choice (D) is incorrect. **Choice (C) is correct because the passage simply told a story about a child who found a lost dog.**
2. In lines 18 to 19, the narrator says he/she “convinced my mom to help ...” meaning that the mom didn’t initially want to help. From the context of the passage, we can assume “begrudgingly” means “doing something without really wanting to.” **This is closest in meaning to answer choice (C) reluctantly.** We know the mom did not really want to help with the dog, so answer choices (A) and (D) do not work. While the mother didn’t want to help, there is nothing in the passage that says she is angry, so answer choice (B) is incorrect.
3. While the passage says that Risa is a small brown dog, we don’t know what dog breed Risa is, so answer choice (A) is incorrect. The passage does not tell us anything about where the narrator lives, so answer choice (C) is incorrect. While the passage tells us the dog is named Risa, the passage does not tell us the narrator’s name, so answer choice (D) is incorrect. **The passage tells us that the narrator found Risa “on my doorstep” in lines 2 and 3, so answer choice (B) is correct.**
4. At the end of the passage, in lines 48 through 50, the narrator asked if Risa “could be ours” and his/her dad responded with, “All that’s left is the paperwork,” with a smile. We can assume this meant that the narrator adopted Risa, so answer choice (A) is incorrect. While the narrator’s mom didn’t seem like she wanted to help the narrator buy supplies for the dog, we can’t assume that this means the mom doesn’t like dogs, so answer choice (B) is incorrect. We don’t know anything about what dog breed Risa is, so we cannot assume she is a mutt, so answer choice (C) is incorrect. **As we said earlier, the last few lines of the passage imply that the narrator adopted Risa, so answer choice (D) is correct.**
5. The narrator clearly cares about Risa because he/she is taking care of her and ends up adopting Risa, so answer choice (A) is incorrect. The narrator’s mother wanted the narrator to put up “lost dog” flyers around the neighborhood, so we can assume she did not want to keep the dog, so choice (B) is incorrect. The narrator’s father does not say anything about Risa’s real name or putting her real name on the posters, so answer choice (C) is incorrect. We can assume that by saying, “I knew that finding

Risa’s – or whatever her real name is – real owners ...” the narrator was simply saying that he/she didn’t know Risa’s real name. **Therefore, answer choice (D) is correct.**

Reading Passage 2

1. The primary purpose of the passage is to provide us with information about Wilma Rudolph, who was an extremely talented and celebrated African American athlete. The passage provides information about how Rudolph started her career, which olympics she competed and won in, and her life after she retired. While the passage mentions the 1956 and 1960 Olympic Games because Rudolph competed in them, it doesn’t tell us any history about sprinting at those Olympic Games, so answer choice (A) is incorrect. While the passage states that Rudolph was “one of the most celebrated African American athletes of her time,” it doesn’t say she is the *greatest* American athlete ever, so answer choice (C) is incorrect. The passage does not mention any other African American athletes besides Rudolph, so answer choice (D) is incorrect. **Answer choice (B) is correct because the passage provides information about Wilma Rudolph, who was an incredible athlete.**
2. Lines 30 through 33 state, “When Rudolph attended the Games, she was the youngest member of the United States delegation at only 16 years old.” **Since we know that “delegation” has to do with being at the Olympics, we can assume that “delegation” means the Olympic team that Rudolph competed on, so answer choice (C) is the correct answer.** Rudolph was not an official, audience member, or high jumper, so answer choices (A), (B), and (D) are incorrect.
3. In lines 30 through 37, the passage talks about Rudolph being 16 years old at the Olympics. **During this Olympics, the passage states that she earned a bronze medal and broke a world record, so answer choice (A) is correct.** Answer choice (B) is incorrect because Rudolph received a bronze medal, which means she came in 3rd place. Answer Choice (C) is incorrect because Rudolph won three gold medals at the 1960 Olympic games, not when she was 16 years old. Answer choice (D) is incorrect because Rudolph was the youngest member of her team when she was 16, but we don’t know that she was the youngest person competing at the Olympics.
4. The passage talks about Ed Temple in lines 16 through 21 and mentions that he was a college track coach who spotted Rudolph at a high school race. The passage says he “saw her potential”, which means he obviously had faith in Rudolph, so answer choice (A) is incorrect. The passage does not say anything about Rudolph’s feelings towards the different Olympic Games she competed in, so answer choice (B) is incorrect. The passage does not mention anything about how close the 200 meter race was in Rome; it just mentions that Rudolph won those events, so answer choice (C) is incorrect. In lines 13 through 16, the passage states, “Rudolph started her career at Burt High School where she began to run track as a way to keep busy during the offseason for basketball.” **This implies that Rudolph was originally more focused on basketball than track, so answer choice (D) is correct.**
5. In lines 38 through 39, the passage states, “Rudolph returned to the Olympic Games in 1960; this time she vowed to win gold.” **This line implies that Rudolph felt confident about the 1960**

Olympic Games since she promised to win gold, so answer choice (C) is correct. Answer choice (A) “spiteful” means bitter or vengeful, but Rudolph clearly felt positively about the 1960 Olympics, so answer choice (A) is incorrect. Again, answer choice (B) is incorrect because “nervous” is negative. While Rudolph felt positively about the Olympics, “amused” means to find something funny or entertaining. She was serious about winning the Olympics and didn’t find it to be funny, so answer choice (D) is incorrect.

Reading Passage 3

1. The primary purpose of this passage is to look at the history of animals in space and how they paved the way for human space exploration. The passage talks about the different types of animals, including insects, that were launched into space, as well as the different definitions of what space is. While the passage mentions Neil Armstrong as being the first human to walk on the surface of the moon, we do not know if this was the first space walk from the passage and this is not the main focus of the passage, so answer choice (A) is incorrect. The passage mentions Russia and some of their experiments, but the focus isn’t on educating the reader about Russian space exploration, so answer choice (B) is incorrect. The passage mentions the first dog in space but doesn’t tell us anything else about the dog, so Answer choice (D) is incorrect. **Answer choice (C) is correct because the passage does go over many different animals that were sent to space over many different years throughout history.**
2. Lines 1-2 state “Animals made their debut appearance in space long before humans.” There is no mention of television in any of the surrounding lines, so answer choice (A) is incorrect. The sentence in lines 1-2 says that animals made their debut before humans, so answer choice (C) is incorrect. The lines also make no mention of a dog being launched into space in 1947, so answer choice (D) is incorrect. **Answer choice (B) is correct because we know that animals went to space before humans and in the next sentence it says “scientists began to ponder the viability of living organisms in space”, so we know that living organisms had never been to space before.**
3. Lines 12-13 mention that Russia was the next nation after the United States to launch an animal into space, so answer choice (A) is incorrect. Lines 16-18 talk about how two dogs that were sent to space were recovered alive and this was unlike previous missions involving monkeys. This tells us that not all the animals sent to space survived, so answer choice (B) is incorrect. Lines 33-35 tell us Yuri Slekseyevich Gagarin was the first human being in space, so answer choice (D) is incorrect. **Answer choice (C) is correct, because while the passage tells us that Neil Armstrong, who was an American, first walked on the moon, it doesn’t mention anything about Russian astronauts walking on the moon.**
4. In lines 46-48 it says it is relatively rare for animals to be sent to space now, but it doesn’t say for certain that they won’t be sent in the future, so answer choice (B) is incorrect. The passage talks about both Russian and American astronauts but does not compare them in any way that would lead the reader to believe one was superior to the other, so answer choice (C) is incorrect. The beginning of the passage talks about fruit flies as being amongst the first living organisms sent to space in

1947, and there is no indication in the passage that animals were sent any earlier than this, so answer choice (D) is incorrect. **Answer choice (A) is correct because lines 43-46 state “These animals paved the way for human space exploration by providing invaluable data about how space and spaceflight affects living organisms.” This leads us to infer that animals were extremely useful in the development of human space exploration.**

5. Lines 48-51 talk about how humans being able to live and work on the International Space Station is in part due to the sacrifices of animals. **This demonstrates how far humankind has come because of or thanks to animals, so answer choice (A) is correct.** The passage doesn’t talk about humans uniting around a common goal, so answer choice (B) is incorrect. The passage mentions the space station in a completely separate paragraph from Neil Armstrong and does not compare or contrast them, so answer choice (C) is incorrect. Nowhere in the passage does it talk about the inability of humans living out in open space, so answer choice (D) is incorrect.

Reading Passage 4

1. The main purpose of the passage is to educate the reader on how the deadly disease smallpox was eliminated from the world. The passage talks about how the smallpox vaccine was discovered, developed, and eventually implemented to prevent people from being infected with smallpox. While the passage does mention that smallpox was eliminated by 1978, it is only one line and not the main idea of the passage, so answer choice (A) is incorrect. The passage also talks about how the smallpox vaccine was created by infecting people with cowpox, but this is not the focus of the passage, so answer choice (C) is incorrect. The passage does not mention if people should or should not get vaccinated so answer choice (D) is incorrect. **Answer choice (A) is correct because the passage provides information on how through vaccination, humans eliminated smallpox from the world.**
2. Lines 39-40 state that by 1978 there were 0 cases of smallpox, and lines 43-44 state that it is estimated over 500 million people died from smallpox while it still existed. Lines 45-48 state “The elimination of smallpox is one example of what humans can accomplish when they come together and embrace science.” **This provides context for what eradicated means and tells us that it most likely means got rid of or eliminated, so answer choice (B) is correct.** Lines 41-42 state “Smallpox remains the only disease that humans have eradicated from planet earth.” Since we know that humans have cured and isolated other diseases, answer choices (A) and (C) are incorrect. The word maneuvered means to move around and doesn’t fit with the context of the sentence, so answer choice (D) is incorrect.
3. Lines 13-14 tell us that cowpox was a similar but non-lethal type of pox, so answer choices (A) and (B) are incorrect. Lines 17-21 tell us that by infecting patients with cowpox, Edward Jenner confirmed his hypothesis and none of the individuals he infected became sick from smallpox. This tells us that Edward Jenner was using cowpox to test a vaccine for smallpox, so answer choice (C) is incorrect. **It also means that Edward Jenner was infecting people with cowpox to test his**

hypothesis that it would prevent people from getting sick from smallpox, so answer choice (D) is correct.

4. While the passage talks about Edward Jenner’s research on smallpox and the vaccine, it never mentions anything about him dying, so answer choice (A) is incorrect. Lines 1-3 state that smallpox has existed on planet earth for over 4,000 years but doesn’t say when it first evolved, so answer choice (C) is incorrect. At the end of the passage, lines 45-48 talk about the elimination of smallpox so answer choice (D) is incorrect. **Answer choice (B) is correct because if smallpox was eliminated in 1978, that means that there would be no cases at any date later than that including 2007.**
5. This passage is mostly providing information about a deadly disease that the human race studied and eliminated with a vaccine. It speaks about the history of Smallpox and the scientists who studied it. **Because most of the passage is giving information, answer choice (C) is the correct answer.** The other doesn’t sound excited or worried because there is nothing to really be excited or worried about in the passage, and he/she is not trying to convince us of anything, so answer choices (A), (B), and (D) are incorrect.

Reading Passage 5

1. The main purpose of the passage is to inform the reader about the first successful solo trip across the Atlantic ocean by plane. This feat was accomplished by Charles Lindberg in 1927. While the passage does mention a commercial flight from New York to Paris in lines 1-2, it does this only as a comparison to the first flight across the Atlantic ocean, so answer choice (A) is incorrect. The passage doesn’t go into the advancements of aviation technology, so answer choice (B) is incorrect. While the passage does talk about Charles Lindberg, it only specifically talks about one part of his aviation career and not his career as a whole, so answer choice (C) is incorrect. **The passage is primarily focused on the first solo flight across the Atlantic Ocean, which was made by Charles Lindberg, so answer choice (D) is the correct answer.**
2. Lines 49-50 state that Lindberg battles poor weather during his flight across the Atlantic. From this we can infer that the weather was not sunny and warm, unpredictable but good, or partly cloudy but mostly clear because all of these are descriptions of mostly good weather. **The only answer that could be described as poor weather is stormy and rainy, so choice (A) is the correct answer.**
3. Lines 53-54 state “His journey was praised around the world...” We know from the passage that Charles Lindberg had just completed a solo flight across the Atlantic Ocean, a feat that had never been done before in human history. Because this was such a big accomplishment and it was the first time it had been done, we can assume that people would have reacted positively to this accomplishment so we know the word praised must have a positive meaning. **The only answer choice that definitely reflects a positive emotion is celebrated, so answer choice (D) is the correct answer.**

4. Nowhere in the passage does the author talk about Lindberg needing money or being in a poor financial situation, so answer choice (A) is incorrect. While the passage does say that many pilots who attempted the journey across the Atlantic died, it doesn't say they were Lindber's friends, so answer choice (C) is incorrect. Lines 15-17 state that Lindberg was fascinated by aviation from childhood, so we know that answer choice (D) is incorrect because the prize money didn't inspire him to become interested in aviation. **Having already been interested in aviation however, the prize money definitely inspired Lindberg to attempt his journey across the Atlantic, so answer choice (B) is the correct answer.**
5. The last line in the first paragraph reads "When Charles Lindberg became the first person to cross the Atlantic Ocean, he did it in a 30-foot plane that weighed less than most modern cars, and he did it solo." The line says nothing about Lindberg wanting to fly to London, so answer choice (A) is incorrect. The line also does not mention that Lindberg was struggling or even looking for a flight partner, so answer choice (B) is incorrect. The line doesn't say anything about how long it took Lindberg to fly across the Atlantic or that he was trying to reduce the flight time, so answer choice (D) is incorrect. The line does mention that Lindberg did this flight solo, so we can assume that this is an important point or else the author wouldn't mention it at the end of the sentence the way he/she did. **From this we can infer that a solo flight of such length was a big accomplishment, so answer choice (C) is the correct answer.**

Reading passage 6

1. The primary purpose of this passage is to educate the reader about the life of Salvador Dali. Salvador Dali was a Spanish born surrealist painter born in the 1900's. While the passage does talk about surrealism, it only talks about it as it relates to Salvador Dali and his life, so answer choice (A) is incorrect. The passage does not focus on any one piece of artwork specifically, so answer choice (B) is incorrect. The passage mentions World War II but does not talk about it extensively or how it affected Dali, so answer choice (C) is incorrect. **The passage does talk about when Salvador Dali was born, when he died, and specifics about his life and artwork, so answer choice (D) is the correct answer.**
2. In lines 5-8 the passage talks about one of Dali's most famous paintings, *The Persistence of Memory*, which he painted in 1931. In the second paragraph in lines 16-20 we learn that Dali attended an art school in Madrid through 1926 and it was there that he painted *Basket of Bread*, which is described as one of his first works. 1926 is clearly earlier than 1931, so answer choice (A) is incorrect. Lines 24-28 in the passage state that over the 20 years after he was at art school in Madrid, he would go on to paint some of his most famous paintings including *The First Days of Spring* and *The Face of War*, so answer choices (C) and (D) are incorrect. ***Basket of Bread* was Dali's earliest work, so answer choice (B) is the correct answer.**
3. Lines 2-5 state that surrealism focuses on presenting odd objects and sometimes putting objects in places they would not normally be. Answer choice (B) is incorrect because a bowl of fruit on a kitchen table is a very normal thing to see. Similarly, answer choices (C) and (D) are also incorrect

because a realistic portrait and a sunset are both normal everyday paintings. **Answer choice (A) is the correct answer because boats sail on water so to see them sailing through clouds would be unusual and odd.**

4. Lines 8-10 are describing a painting called *The Persistence of Memory*. The sentence is describing what the painting was of. The words admires, erases, and explains don't really fit if the author is trying to tell us what the painting is of, so answer choices (B), (C), and (D) are incorrect. **Answer choice (A) is correct because if the author is describing what is in the painting, he/she is telling us what the painting shows.**
5. Lines 20-23 describe how Pablo Picasso helped to shape Dali's art. The passage doesn't say that Picasso taught Dali everything he knows, so answer choice (A) is incorrect. The passage also doesn't say that Picasso was a better or worse artist than Dali, so answer choice (B) is incorrect. The Passage doesn't specify if Dali and Picasso collaborated on any art, so answer choice (D) is incorrect. **Because the passage does say Picasso helped shape Dali's art, we can assume that he played a role in Dali's success, so answer choice (C) is the correct answer.**

Reading Passage 7

1. The main purpose of this passage is to educate the reader on the topic of migration. The passage discusses different animals and insects and the different reasons they migrate. While the passage does use wildebeest as an example, they are not the main focus of the article, so answer choice (A) is incorrect. While the passage does talk about the migratory behaviors of American Salmon and butterflies, it's not comparing or contrasting them, so answer choice (B) is incorrect. The passage doesn't really describe various features of different animals, so answer choice (C) is incorrect. The passage does describe why many different types of animals migrate and this is the main focus of the passage, **so answer choice (D) is the correct answer.**
2. Lines 23-25 state that some animals migrate because their mating grounds are in a different area than where they live, so answer choice (B) is incorrect. Lines 4-7 talk about african wildebeest migrating to chase the rains that nourish the grasslands that provide them food, so answer choice (C) is incorrect. Lines 13-14 state that one of the most common reasons animals migrate is climate, so answer choice (D) is incorrect. **The passage never specifically mentions animals migrating due to competition so answer choice (A) is the correct answer.**
3. Lines 19-21 state "The butterflies make the 3,000 mile journey over the course of four separate generations." **Therefore, answer choice (D) is the correct answer.**
4. Lines 15-17 state "These beautiful, delicate insects are unable to survive the harsh temperature of the American winter." **Because we know that winter is most usually associated with cold weather in North America, answer choice (C) is the correct answer.**

5. The passage talks about the osprey’s migration habits but does not say how many miles they fly when they do, so answer choice (A) is incorrect. While the passage does say that Osprey migrate all the way to South America, it doesn't say which specific countries they migrate to, so answer choice (C) is incorrect. The passage does talk about the American Salmon and where it migrates to and from, but it does not mention how much they weigh, so answer choice (D) is incorrect. **Lines 1-2 state that every year roughly 1.5 million wildebeest migrate in Africa, so answer choice (B) is the correct answer.**

Reading Passage 8

1. The main purpose of the passage is to tell a story of a child building a coffee table with his/her father as a gift for his/her mother for mothers day. The child in the passage didn't want to give his/her mother a typical gift this year, so he/she came up with a thoughtful way to show his/her appreciation for his/her mother. The passage doesn’t go into detail with instructions for each step of the building process, so answer choice (A) is incorrect. While the passage might make the reader think about gift ideas for their own mother, that is not the primary purpose of the passage, so answer choice (B) is incorrect. The author of the passage doesn’t mention whether or not he/she feels it is important to create a thoughtful gift, so answer choice (C) is incorrect. **While the passage doesn’t give follow along instruction on how to build a coffee table, it does detail the process of how such a thoughtful gift was created, so answer choice (D) is the correct answer.**
2. Lines 36-39 state “After waiting a whole day, it was finally time to place the top onto the legs. Together my dad and I carefully rested the cherry slab on the legs.” It wouldn’t make sense to rest legs on top of legs, so answer choice (A) is incorrect. Similarly you wouldn’t rest paint or a picture frame on top of table legs if you were building a table, so answer choices (C) and (D) are incorrect. The first sentence says they were going to place the table top, which we know is made out of wood, onto the legs. **For this reason we know that slab most nearly means piece of wood, so answer choice (B) is correct.**
3. The last line of the passage is “that was all she needed to say”. This implies that the narrator was at the very least satisfied with the reaction his/her mother had to the gift he/she built for her. If the narrator’s goal was to give their mother a gift she would really appreciate and his/her mother was satisfied with her reaction to said gift, then it is safe to assume that she felt happiness or joy when seeing her gift. Further usually when you receive any type of gift you would feel some happiness unless otherwise stated, so because the author doesn’t mention any negative emotions, we can assume the narrator's mother was happy with the gift. **Answer choice (A) is the correct answer.**
4. The order of these events according to the passage is, the narrator thought of the idea to make their mom a coffee table (lines 7-8), the narrator’s mom was drinking coffee at the coffee table (lines 9-16), the narrator bought wood (line 20), and the narrator and their father cut the leg pieces for the table (lines 24-28). **Answer choice (A) is the correct answer because it came last in the sequence.**

5. Lines 39-43 talk about the process of screwing and nailing the entire coffee table together, making sure to hide all the nails and screws. That does not sound like a description of something that was quick or easy so answer choices (C) and (D) are incorrect. While the process did take a couple of hours, that doesn't mean that the narrator and his/her father were working slowly. Sometimes you can be working pretty hard and fast but just have a lot of work to do so it takes a long time, so answer choice (A) is incorrect. **The passage says the narrator and his/her father took care to hide all the screws and nails during this process, which would lead us to believe they were working carefully, so answer choice (B) is the correct answer.**

Reading passage 9

1. The main purpose of the passage is to educate the reader about the International Space Station. The passage discusses its creation, what life is like on the space station, and possible plans for the future. While the passage does say that the US and Russia were the two nations who started the construction of the ISS, it doesn't do this to prove that the US and Russia are superior in any way, so answer choice (A) is incorrect. The passage also covers the day to day life of the astronauts and some of the differences of life in space versus life on earth. However the difficulties of living in space are not the focus of the passage so answer choice (C) is incorrect. While there are some lines about the construction of the ISS, it's a small portion of the passage as a whole, so answer choice (D) is incorrect. **The passage's real focus is to provide information to the reader about the ISS, so answer choice (B) is the correct answer.**
2. The fourth paragraph in the passage talks about the differences astronauts experience living in space versus living on earth. Two of the main differences are there is no gravity in space and all the food the astronauts eat is precooked and dehydrated. Completing day to day tasks without gravity would definitely be an adjustment and not easier than living on earth, so answer choice (A) is incorrect. Nothing in the article implies that tasks on the ISS are boring or more fun than on Earth, so answer choices (B) and (D) are also incorrect. **Completing tasks without gravity and having all your food already cooked and dehydrated would probably make day to day tasks a bit more complicated than life back on Earth, so answer choice (C) is the correct answer.**
3. Lines 53-55 state "The ISS has funding to continue to operate from both the US and Russia through 2024." **This sentence tells us that the space station will most likely be operational through 2024, so answer choice (A) is the correct answer.**
4. The fourth paragraph in the passage is all about comparing life on the ISS to life back on Earth. Lines 34-37 state "Life on the space station can be very different from life on earth. One of the most obvious distinctions is the absence of gravity." The whole paragraph describes the challenges and differences the astronauts on the ISS face on a day to day basis. **Based on this we can infer that the word "distinctions" most nearly means differences, so answer choice (D) is the correct answer.**
5. As discussed in question 1 the main purpose of the passage is to educate and inform the reader about the ISS. There is no reason for the author to be scared of anything, so answer choice (B) is incorrect.

Similarly the author doesn't talk about anything that would make him apprehensive, so answer choice (C) is incorrect. The passage describes the ISS and the astronauts who live there and it goes into details about their day to day life and the impact they have. The author is clearly interested in the subject, so answer choice (D) is incorrect. The passage is mostly informing the reader about the ISS and the author discusses positive impacts that the ISS has on society. **For this reason answer choice (A) is the correct answer.**

Reading Passage 10

1. The main purpose of this passage is to tell the story of a daughter's first fishing trip with her father. The passage doesn't go into detail about everything you need to do to prepare for a fishing trip, so answer choice (A) is incorrect. While the reader may infer that the father and daughter love each other from the passage, that is not the main focus of the passage, so answer choice (B) is incorrect. Nowhere in the passage does the author discuss any pros or cons of fishing, so answer choice (D) is incorrect. **Aain the main focus of the passage is the story of a daughter's first fishing trip with her father, so answer choice (C) is the correct answer.**
2. Lines 22-24 are talking about the early morning light from the sun and steam evaporating from the surface of the water. The word increased means to make something bigger in size or intensity. Light from the sun wouldn't make steam on the water increase, so answer choice (A) is incorrect. The word concealed means to hide something and light usually does the opposite of this, so answer choice (B) is incorrect. The word ignited means to catch on fire, which would not make sense in the context of the sentence, so answer choice (D) is incorrect. **The word highlighted means to emphasize or make clearer what sunlight does do, so answer choice (C) is the correct answer.**
3. In the first paragraph the author talks about Rosa not being able to go on fishing trips previously. Lines 5-6 state that "Now that she had officially turned 10, it was her turn." **From that we can infer that the reason she was not allowed to go before now was that she was not old enough, so answer choice (D) is the correct answer.**
4. Answer choice (A) is incorrect because the author never talks about Rosa and her brother's relationship, so we don't know how they get along. Lines 7-8 state "For her first trip, Rosa wanted to go alone with her father." While this doesn't mean that her brother Jamie wasn't sick, we can infer that the reason he didn't go on the fishing trip was that Rosa has asked to go alone. This means answer choice (C) is incorrect. While the passage never mentions anyone else out on the lake while Rosa and her father were fishing, it also doesn't mention that they were alone, so answer choice (D) is incorrect. In the second paragraph, the author talks about the lunch Rosa promised to make taking longer than expected even though it was simple. **From this we know that answer choice (B) is the correct answer.**
5. The incident in the last paragraph that the question is referring to is Rosa's father falling into the water after he stood up to unscrew his water bottle cap. While falling into the water could definitely be dangerous and scary in certain situations, the author doesn't tell us anything that would lead us to

believe that Rosa’s father was in danger. From this we know answer choice (A) is incorrect. Someone falling into a lake isn’t necessarily very interesting or thought provoking, so answer choice (C) is incorrect. Nothing about the situation makes the reader think it is awkward that Rosa’s father fell into the lake either, so answer choice (D) is incorrect. Earlier in the passage we learned that Rosa’s father had taught her to always keep three points of contact with the boat or you would eventually fall in. Then, later in the passage, he falls in because he didn’t remember his own rule. This is not only a funny occurrence but also ironic because he failed to follow his own advice. **From this we know that answer choice (B) is the correct answer.**

Reading passage 11

1. The main purpose of the passage is to educate the reader about Dorothy Molter's business selling root beer in The Boundary Waters Canoe Area (BWCA). While the passage talks briefly about Molter’s sales tactics, it is not the main focus of the passage, so answer choice (B) is incorrect. The passage does mention that the BWCA is a popular canoeing spot, but this is only mentioned once and is not a main theme in the passage, so answer choice (C) is incorrect. The passage does not mention reasons why people in general choose to canoe, so answer choice (D) is incorrect. **Most of the passage is focused on Dorothy Molter and the history of her root beer business, so answer choice (A) is the correct answer.**
2. While all of the answer choices are true, only one of them is directly stated as the reason the BWCA is the most popular canoeing destination. **Lines 5-7 state “Due to the nearly 5,000 lakes in this area, it is also the most popular canoeing destination in the world.”, so answer choice (D) is the correct answer.**
3. The word vast is used to describe the BWCA in the first sentence of the passage. The next sentence goes on to say that the BWCA is three times larger than the state of Rhode Island. **From that sentence we can infer that the BWCA is a very large area, so Answer choice (C) is the correct answer.** The other choices don’t make as much sense. Answer choices (A) and (B) are opposite of each other and neither is implied by the surrounding sentences or the passage as a whole. Answer choice (D) is incorrect because while the BWCA is a wooded area, the context of the sentence tells us that the word vast is most likely describing the size of the BWCA.
4. Lines 40-44 state “In 1964 the US Wilderness Act deemed the sale of her root beer illegal, so she began giving it away in exchange for “donations” from people.” **Therefore, answer choice (D) is the correct answer.**
5. Lines 49-51 state “Her cabin was deconstructed and moved to Ely, MN, where it now serves as a museum.” The passage tells us that Molter’s cabin was moved to another part of MN, so we can infer that it is no longer in the BWCA. **Answer choice (B) is the correct answer.**

Reading passage 12

1. The main purpose of the passage is to educate the reader on the shortest military conflict in history, the Anglo-Zanzibar War. The author does not share his/her perspective on whether war should be avoided, so answer choice (A) is incorrect. While the passage does compare the lengths of a few wars, it does this as more of an introduction to the passage and not the main focus, so answer choice (B) is incorrect. Again the passage uses the war in Afghanistan as an introduction to the main subject of the passage, so answer choice (C) is also incorrect. **The main focus of the passage is the history of the shortest war in history, the Anglo-Zanzibar War, so answer choice (D) is the correct answer.**
2. The first line in the passage says “On October 7th, 2001, the United States invaded Afghanistan in-part as retaliation for the terrorist attacks occurring on September 11, 2001.” It wouldn’t make sense for the US to go to war as an apology for something it didn’t do, so answer choice (A) is incorrect. It wouldn’t be grammatically correct to say the US went to war as violence for the terrorist attacks, so answer choice (C) is incorrect. A warning is something that happens before something else and since the US invaded Afghanistan after the terrorist attacks, answer choice (D) wouldn’t make sense and is incorrect. Revenge means to inflict harm on someone or something in response to something they did to you. **This definition makes sense both grammatically and conceptually, so answer choice (B) is the correct answer.**
3. The author doesn’t give the reader any reason to believe that the British cheated in the Anglo-Zanzibar war, so answer choice (A) is incorrect. Lines 39-41 state “In total the Sultan’s forces suffered over 500 deaths and injuries, while only a single British soldier was injured.”, so we know the Zanzibaris has some sort of army. This means answer choice (B) is incorrect. Lines 36-37 tell us that the Sultan escaped during the fight, so he was not killed and answer choice (C) is incorrect. Because we know the British army won the war and suffered very minor injuries while doing so, we can infer that the British forces were more powerful than the Zanzibaris. **Answer choice (D) is the correct answer.**
4. The second paragraph in the passage tells us that the British allowed the Zanzibaris to rule over themselves but only under the condition that any change in their leadership be approved by the British (lines 18-22). In the third paragraph the passage goes on to say that in 1896 the Sultan died and was quickly replaced by another, and that the British did not approve of this change and ordered the new Sultan to step down (lines 23-28). The fourth paragraph in the passage says that because the Zanzibaris didn’t listen to this order, the British gathered several boats and soldiers around the Sultan’s palace and began to fire (lines 29-33). **All of this tells us that the reason the war started was because the Zanzibaris didn’t get permission from the British when their Sultan was replaced, so answer choice (C) is the correct answer.**
5. It is not impossible to accurately time a war so answer choice (A) is incorrect. Similarly, historians don’t always use range when talking about the length of wars, so answer choice (B) is incorrect. The passage doesn’t tell us if the British and Zanzibaris each claim a different length of the war, so

answer choice (D) is incorrect. The simplest explanation for why the duration of the war was given as a range is because the exact timing of the war is unknown. **Answer choice (C) is the correct answer.**

Reading Passage 13

1. The passage tells the story of a cyclist, James, who has a goal of qualifying for Nationals. To do this he must finish in the top 5 in a qualifying race throughout the season. He almost accomplishes this goal in a race in Atlanta but a flat tire causes him to finish outside of the top 5 and so he must enter the longest race he has ever competed in to have a last chance of making Nationals. While the passage does talk about some of the difficulties that James faced as a cyclist, it is not the main focus of the passage, so answer choice (B) is incorrect. We also know that James does achieve his dreams of going to nationals by placing in the top 5 of the race described in the passage, so answer choice (C) is incorrect. The passage doesn't say anything about James being one of the world's greatest cyclists, so answer choice (D) is incorrect. **As mentioned before, the passage does talk about James failing to place top 5 in one race and then succeeding in the following race, so answer choice (A) is the correct answer.**
2. Lines 3-6 in the first paragraph state "As a last resort, he had decided to enter the Chattanooga Century—a 100-mile bike race through the forest and foothills of Tennessee." From this we know that a century is a 100-mile race, so we know that a $\frac{3}{4}$ century would be $\frac{3}{4}$ of 100 miles or 75 miles. **Answer choice (C) is the correct answer.**
3. The word excruciatingly means painfully. If James was painfully close to winning the race, this would mean that he was very very close to winning. Answer choice (B) is incorrect because being close to winning a race that he wanted to win would not be dangerous. Answer choice (C) is incorrect because it wouldn't make sense to describe being close to winning as painful if James was not very close, as losing wouldn't be painful if he didn't expect to win. Answer choice (D) doesn't make sense because the word impulsively doesn't fit in the sentence grammatically or conceptually. **The only answer that makes sense is answer choice (A), as not winning would only be painful if James was extremely close to winning.**
4. Lines 3-6 tell us that James entered the Chattanooga Century as a last resort. At this point in the passage we do not yet know why entering the race is a last resort. In the second paragraph we learn that in order to qualify for nationals, cyclists have to finish in the top 5 in a qualifying race. Lines 23-27 tell us that after James failed to finish in the top 5 in the race in Atlanta that he immediately registered for the Chattanooga race. **Between all of these facts, we can infer that entering the Chattanooga Century was a last resort because it was James' final chance to qualify for nationals, so answer choice (B) is the correct answer.**
5. Lines 18-19 state "Victory seemed inevitable, but his flat tire changed all that." We can see that James was most likely going to win the race in Atlanta but his bike getting a flat tire, or an issue with his bike, prevented him from winning. **Answer choice (D) is the correct answer.**

Reading Passage 14

1. The main focus of the passage is on an event called “Tulip Mania” that happened in the 1500’s in the Netherlands. Tulip Mania or Tulip Fever was a term used to describe a time in Dutch history where the prices and demand of tulips skyrocketed and then eventually crashed. The passage implies both “Tulip Fever” and “Tulip Mania” can be used interchangeably. Because of this we can assume they mean the same thing and would not need to be compared or contrasted, so answer choice (A) is incorrect. While the event described in the passage is a part of Dutch history, the passage does not go into other times in Dutch history, so answer choice (B) is incorrect. The passage does talk about the popularity of tulips in one specific time period in history, but does not go into their popularity or importance in general, so answer choice (D) is incorrect. The passage describes Tulip Fever as an event that affected prices and demand of tulips in the Netherlands. Both prices and demand are terms that are associated with economics, so Tulip Fever could be described as an economic event. **Because of this, answer choice (C) is the correct answer.**
2. While the passage does say Tulips are brightly colored, this is not the reason they were so popular during Tulip Mania, so answer choice (A) is incorrect. The passage also tells us that prices of tulips skyrocketed, so we know they were not cheap and answer choice (B) is incorrect. The passage does mention that tulips only bloom for one week each year but not as a reason why they were popular, so answer choice (C) is incorrect. Lines 4-8 state that tulips were unlike any flower the region has seen because they could survive the harsh winter. It goes on to say that because of this mania ensued, so we can infer that the reason they were so popular was because they could survive the winter. **Answer choice (D) is the correct answer.**
3. The sentence referred to in the question states “Because tulips only bloomed for one week in April and May, most sales were simply for the dormant bulbs in the ground or future ownership of the flower at the end of the season.” Bulbs are a type of plant called a perennial, which means they bloom and then the flowers die back until the next year. The plant as a whole doesn’t die but rather remains inactive until the next year when it blooms again. **Knowing this lets us infer that the word dormant most nearly means inactive, so answer choice (C) is incorrect.**
4. We know from the previous question that even though tulips only bloomed for one week, they were still purchased throughout the year, so answer choices (B) and (C) are incorrect. The passage never mentions that people would buy tulip seeds for themselves, so answer choice (D) is incorrect. **The passage does say that because the tulips only bloomed for one week, most of the sales were for future ownership of the tulips, so answer choice (A) is the correct answer.**
5. Lines 19-22 tell us that people thought the value of tulips would always go up but that in 1637 the bubonic plague brought tulip trading to a halt. **Therefore, choice (B) is the correct answer.**

Reading Passage 15

1. The main purpose of the passage is to educate the reader on a unique and interesting animal called a platypus. Answer choice (A) is incorrect because, while the passage does mention beavers, otters, and ducks, it doesn't describe any similarities between the three. The passage does state that when platypuses were first discovered, scientists actually thought they were a hoax. However the passage goes on to say that after further investigation this was proven false, so answer choice (B) is incorrect. Lines 38-40 tell us that the platypus is one of only two mammals that lay eggs, so answer choice (C) is incorrect. **The passage does describe the platypus and many of the characteristics that make it unique, so answer choice (D) is the correct answer.**
2. The word hoax is used to describe what scientists thought when they first examined the platypus. Being such a strange creature, the scientist had never seen anything like it before. Given the context, choice (A), a mistake, and choice (D), an imposter, don't make sense because an animal would not be a mistake or an imposter. That leaves choices (B) and (D). You might be tempted to go with choice (B) because the next sentence in lines 6-8 states “‘It naturally excites the idea of some deceptive preparation by artificial means,’ English zoologist George Shaw wrote in 1799.” **However the key word in that sentence is deceptive, which is more closely related to the word prank, so answer choice (C) is the correct answer.**
3. **Answer choice (A) is the correct answer.** Lines 29-31 state, “...their large flat tail wasn't just for show- it actually stores fat that helps prevent the animal from starving.”
4. Lines 38-40 state that platypuses are one of two mammals that lay eggs, the other being echinidas. **Therefore, answer choice (B) is the correct answer.**
5. Lines 22-25 tell us that Shaw confirmed the platypus was in fact real after close and careful examination. We can infer that even though Shaw might have thought the animal was a prank, he kept studying it to find out. This would imply that he is the opposite of easily tricked or gullible, so answer choice (A) is incorrect. **It would also imply that Shaw was a persistent scientist, so answer choice (B) is the correct answer.** The author never tells us who the first person to see a platypus was, so answer choice (C) is incorrect. While Shaw may have discovered many animals in his life, the author only tells us about the platypus, so answer choice (D) is incorrect.

Reading Passage 16

1. The main purpose of this passage is to educate the reader on the vast contributions China has made to the modern world. The passage details how China is the only surviving ancient civilization and how throughout history China has provided the world with many of its most useful inventions. The passage does not compare or contrast the contributions made by China with other countries, so answer choice (B) is incorrect. The author does not try to persuade the reader that China is the most influential country, so answer choice (C) is incorrect. While the passage does talk about the history of China, it does so only in the context of China's contributions, so answer choice (D) is incorrect.

Because the passage focuses on the contributions made by China to the rest of the world, answer choice (A) is the correct answer.

2. Lines 11-14 state “Ancient China is credited for the Four Great Inventions: gunpowder, paper, the printing press, and a compass.” While wheelbarrows are mentioned later in the passage, they are not said to be one of the Four Great Inventions. **Therefore, answer choice (C) is the correct answer.**
3. The passage never says that China has more factories than any other country, so answer choice (A) is incorrect. While we might assume that China’s economy is dependent on the manufacturing of goods, the passage gives us no evidence of that, so answer choice (B) is incorrect. The passage also never says that without China, the world would have no items manufactured. We also know this can’t be true because items are manufactured in countries all over the world, so answer choice (D) is incorrect. Lines 20-21 go on to say “fabricating everything from plastic bottles to plush toy animals for global consumers.” From this we can infer that China creates many useful items for the rest of the world and that is what is meant when the author says China has become the “world’s manufacturer.” **Answer choice (C) is the correct answer.**
4. As stated in the previous question, we know that the author refers to China as the “world’s manufacturer” because China creates many useful items for the rest of the world. The word manufacture means to make something on a large scale, so we can infer that the word fabricating would mean something similar like creating. **Answer choice (D) is the correct answer.**
5. While the author does mention the Babalonian and Roman empires, he/she does this only while talking about ancient civilizations and does not compare them to China, so answer choice (B) is incorrect. The author also says that China became the world’s manufacturer to boost its economy but that recently we have seen a new phenomenon of consumption in China. This would imply that the author is unsure if China will always be the world’s manufacturer, so answer choice (C) is incorrect. While the author does state that many Western ideals have influenced current Chinese culture, he/she doesn’t say he thinks that Chinese and Western cultures will be identical, so answer choice (D) is incorrect. The author does say that as technology evolves, China will remain open to accept more contributions from newer countries and cultures. **We can assume that China will benefit from these cultural contributions just as the rest of the world has benefited from China’s contributions, so answer choice (A) is the correct answer.**

Reading Passage 17

1. ***Perfection in a Pan* captures the overall feel and theme of the passage. It’s playful and makes sense for the whole passage, so answer choice (A) is the correct answer.** *The Death of a Sandwich* implies that the author thinks grilled cheese sandwiches are dying or dead, which is not the theme of the passage, so answer choice (B) is incorrect. *Triangles over Rectangles* works for the very beginning and very end of the passage, but the passage covers a much broader range of criteria for making grilled cheese, so answer choice (C) is incorrect. *Cooking like a King* is too broad of a title

and doesn't give enough clues to what the passage is actually about, so answer choice (D) is incorrect.

2. In lines 14-16 the author recommends that you use sourdough bread, so answer choice (A) is incorrect. Similarly, in lines 26-27 the author recommends pepper jack cheese if you want an extra kick, so answer choice (B) is incorrect. The author does talk about melting a small amount of butter, but he/she never goes into specifics, so answer choice (C) is incorrect. When talking about using mayonnaise on a grilled cheese, the author describes it as "imperative" in line 32. **This implies that the author feels it is a necessary component of a perfect grilled cheese and forgetting it would ruin the sandwich, so answer choice (D) is the correct answer.**
3. As discussed in the previous question, the author uses the word imperative to describe how he/she feels about the use of mayonnaise. Lines 33-34 state that this step is often overlooked by even the most experienced chefs. **This implies that even though experienced chefs leave this step out, the author feels that it is very important or crucial, so answer choice (D) is the correct answer.** Choice (A) is incorrect because saying this step is overlooked and often overlooked would be repetitive. Choice (B) makes more sense than overlooked, but is also incorrect because relevant is not a strong enough word to convey how important the author believes mayonnaise is to a grilled cheese. Choice (C) is incorrect because you wouldn't really use the word delicious to describe a step in making a grilled cheese, and even if you did, it's not the best answer choice.
4. This is a tricky question. First we can eliminate answer choice (A) because the author isn't trying to convince the reader of anything in the passage. Next we can eliminate answer choice (D) because in the passage, the author is doing more than just presenting facts or information. That leaves choices (B) and (C). In the passage the author is giving the reader instructions on how to make a grilled cheese, and he/she is doing so in an entertaining way. You might be tempted to choose answer choice (C), but the main purpose of the passage is to instruct the reader on how to make the perfect grilled cheese. **Doing so in an entertaining way doesn't change that fact, so answer choice (B) is the correct answer.**
5. The final paragraph of the passage tells the reader to cook their grilled cheese for 3 minutes on each side on low heat. Pay attention to the temperature in each answer choice in this question. **3 minutes on each side equals 6 minutes total on low heat, so answer choice (B) is the correct answer.**

Reading Passage 18

1. *A Comparison of Silk and Cotton* is not the best choice for a title of this passage because the passage doesn't focus on comparing silk and cotton, so answer choice (A) is incorrect. ***The Benefits of Silk* is a good choice for the title of this passage because the main purpose of this passage is to educate the reader about silk and all its benefits, so answer choice (B) is the correct answer.** *Silk: The Superior Fabric* is not the best choice for a title for this passage because similar to choice (A), the passage doesn't focus on promoting silk versus other fabrics, so answer choice (C) is incorrect. *Choosing the Right Fabric* is not the best choice for a title of this passage because it is not

specific enough and doesn't tell the reader what the passage is about, so answer choice (D) is incorrect.

2. Lines 10-13 are explaining why silk has anti-ageing properties and state that silk is a natural material "harvested" from silkworm cocoons. Based on this we can assume that silk comes from silkworm cocoons and so harvested most likely means some way of getting it. We can also think about where else the word harvested is used, for example when talking about farming. Harvesting in farming is when crops are gathered after they have been grown. **With all of this information we can assume that harvested most nearly means collected, so answer choice (D) is the correct answer.**
3. Paragraph 3 in the passage talks about why silk is a good fabric for bedding and nightwear. Lines 19-20 state "The material is light, cool, breathable, and extremely soft." **From this, we know that answer choice (B) is the correct answer.**
4. Lines 21-23 state "It facilitates a better sleeping experience, leaving users to a night of moisture-free slumber." so answer choice (A) is incorrect. Lines 4-6 state "Given silk's desner, lighter material, it is easier for the fabric to regulate the body's temperature." so answer choice (B) is incorrect. Lines 19-20 state "The material is light, cool, breathable, and extremely soft." so answer choice (C) is incorrect. **Lines 24-26 state "While more expensive than cotton, silk's durability makes any product a sound investment." so we know that silk is not inexpensive and answer choice (D) is the correct answer.**
5. In the first paragraph the author doesn't go into detail about any one specific benefit, so answer choice (B) is incorrect. While the author does mention that silk is a better fabric than cotton, he/she doesn't compare or contrast the two. He/she doesn't talk about any of cotton's characteristics so answer choice (C) is incorrect. The first line in the passage starts off by saying "Silk is a much better fabric than cotton..." so answer choice (D) is incorrect. **The primary purpose of the first paragraph is to make an argument that silk is a beneficial fabric, so answer choice (A) is the correct answer.**

Reading Passage 19

1. The main purpose of this passage is to educate the reader about a mysterious stone found in New Hampshire by a group of construction workers. The author never implies that some mysteries are better left unsolved, so answer choice (A) is incorrect. The author does not disprove any scientific theories in the passage, so answer choice (B) is incorrect. While the passage does tell the story of an unexpected discovery, proving that discoveries can be made when you least expect it is not the main purpose of the passage, so answer choice (C) is incorrect. **The main purpose of the passage is to provide information on a surprising and unusual discovery, so answer choice (D) is the correct answer.**
2. Lines 10-13 state "While digging in the clay near the shore of the lake, these workers unearthed an unusual artifact that is known today as 'New England's Mystery Stone'." We know from the context

that the word unearthed is something that happens when you are digging. If we think about digging we know that we dig to find things under the ground that are covered by dirt or rocks. We can also see that unearthed has the prefix un which means not, so unearthed means not earthed or not buried. **So if the construction worker unearthed something, they unburied or uncovered it while digging which means answer choice (C) is the correct answer.**

3. The first paragraph of the passage asks the reader what they would do if they found a strange egg shaped stone covered in carvings. **The first line in the second paragraph goes on to say this happened to a group of construction workers in New Hampshire, so answer choice (D) is the correct answer.**
4. Lines 33-34 state “What are the meanings of the cryptic carvings?” so we know the word “cryptic” is describing the carvings on the stone. If we think about the passage as a whole we know that there is a lot of mystery surrounding the stone and many experts still disagree on what the carvings mean. The passage doesn't imply the stone or the carvings are dangerous, so answer choice (A) is incorrect. As previously stated, there are still many questions about the stone and the carvings, so answer choice (C) is incorrect. The passage tells us that there are only a few different carvings on the stone, so answer choice (D) is incorrect. **Because of all the mystery still surrounding the stone the word cryptic most nearly means mysterious, so answer choice (B) is the correct answer.**
5. The entire passage focuses on the fact that there are still many questions about the stone today. Experts can't agree on where it is from or who carved it. **This is the most logical reason the stone is named the “Mystery Stone”, so answer choice (B) is the correct answer.**

Reading Passage 20

1. The main purpose of the passage is to provide information on the Cold War, which was a decades long conflict between the U.S. and the U.S.S.R. While the passage does talk about both sides fighting in the Cold War, the main focus is not to compare and contrast them, so answer choice (A) is incorrect. Lines 24-27 tell us that while the Cold War was a fearful time, not one civilian life was ever in danger, so answer choice (C) is incorrect. In the final line of the passage the author does say that many people question whether the Cold War really ended, but this is just a closing remark and not the main focus of the passage, so answer choice (D) is incorrect. **The passage's main focus is to give a brief background on the Cold War to the reader, so answer choice (B) is the correct answer.**
2. The question is asking what the U.S. and Western Powers were fighting for, or in other words what the U.S. and Western Powers wanted. **Lines 4-8 state “The U.S. led Western Powers wanted to spread democracy and eliminate communism throughout the world...”, so answer choice (A) is the correct answer.**
3. In the passage the word “remote” is describing towns. The word remote means far off in place or time. If you didn't know the definition of remote you could think about a TV remote, which allows

you to control the TV from a far away distance. Making that connection might help you to determine the correct answer. If we think about a town that is far off from other towns, we would assume it wouldn't be very populated, so answer choice (A) is incorrect. While a remote town might be dangerous that is not what the word remote means, so answer choice (B) is incorrect. Similarly a remote town might be famous but the word remote does not mean famous, so answer choice (D) is incorrect. **The word remote most nearly means faraway, so answer choice (C) is the correct answer.**

4. Lines 24-27 tell us that while the Cold War was a fearful time, not one civilian life was ever in danger, so answer choice (A) is incorrect. The passage doesn't imply that school children were targeted at all, so answer choice (B) is incorrect. If atomic bombs were used on a regular basis, it's safe to assume that many civilians would have been killed. Since we know that not one civilian life was ever in danger, answer choice (C) is incorrect. **The third paragraph of the passage tells us that the biggest fear during the Cold War was the fear that an atomic bomb could be dropped at any moment, so answer choice (D) is the correct answer.**
5. Lines 41-42 tell us that while The Nuclear Test-Ban Treaty brought an end to the everyday terror many civilians felt, the efforts of countries involved in the Cold War became even more drawn out and bloody, so answer choice (A) is incorrect. While the passage talks about the Vietnam War and the Korean War, it doesn't say that the treaty is what caused them. More likely is that those wars were caused by continuing conflict from the Cold War, so answer choice (B) is incorrect. While the treaty didn't completely end the Cold War, as previously stated it did bring an end to everyday terror felt by many civilians. This would imply that the treaty was not essentially ineffective and useless, so answer choice (C) is incorrect. **We can infer from the name of the treaty, the context, and the fact that none of the other answers are true that the treaty restricted the use of nuclear weapons, so answer choice (D) is the correct answer.**

Reading Passage 21

1. The primary focus of the passage is to educate and inform the reader about the life and career of the famous author Dr. Seuss. While the passage does talk about how Dr. Seuss got his name, this is not the main focus of the passage, so answer choice (A) is incorrect. The passage does mention some of the most famous books Dr. Seuss wrote but it never says how many books he wrote in total, so answer choice (C) is incorrect. While the passage does talk about the influence WWII had on Dr. Seuss and his writing, it is only in one paragraph and not the main theme of the passage, so answer choice (D) is incorrect. **The main focus of the passage as a whole is the life and literary career of Dr. Seuss, so answer choice (B) is the correct answer.**
2. The second paragraph in the passage talks about the origins of the name Dr. Seuss. The paragraph says that Dr. Seuss's given name was Theodor Seuss "Ted" Geisel. Lines 14-17 go on to say "During his time as an undergraduate at Dartmouth College, he started to write under the pen name 'Dr. Seuss'." So the name Dr. Seuss is not his real name and he chose it for himself while he was in college as a name to use while writing. **With this information we can assume that the phrase**

“pen name” means a name that an author creates to avoid using their real name while writing, so answer choice (A) is the correct answer.

3. Lines 21-23 state “While many people may know Geisel for his writings, he started his career mainly as an illustrator.” so answer choice (A) is incorrect. Lines 33-35 state “Dr. Seuss began to create political cartoons for a variety of different publications.”, so answer choice (B) is incorrect. The passage as a whole is about the career of Dr. Seuss as an author, so answer choice (D) is incorrect. **The only job the passage does not mention Dr. Seuss having is photographer, so answer choice (C) is the correct answer.**
4. We know from the passage that for the first 15 years of Dr. Seuss’s career he worked as an illustrator for magazines including *Vanity Fair* (lines 23-27). We also know from the passage that the lighthearted nature of Dr. Seuss’s work changed at the onset of WWI in the late 1930’s (lines 31-33), implying that this came after the start of his career. Lines 38-42 tell us that the political illustrations Dr. Seuss created during the war are now collected in the book *Dr. Seuss Goes to War*. We know this had to come after the start of WWII because the illustrations were inspired by the war itself. Finally lines 1-6 tell us that Dr. Seuss wrote *Horton Hears a Who!* between 1955 and 1960, which we know is later than the 1930’s when WWI started. **From all of this we can see that the first event that happened was Geisel was an illustrator for *Vanity Fair*, so answer choice (B) is the correct answer.**
5. **The author’s tone towards Dr. Seuss could best be described as admiring, so answer choice (A) is the correct answer.** We know this from paying attention to clues throughout the passage. Some of these clues include lines 9-10 where the author refers to “the famous Dr. Seuss.”, lines 1-3 where he references Dr. Seuss’s books as some of the most beloved and popular children’s books of all time, and the last line in the passage where the author talks about how libraries, gardens, and museums were dedicated in Dr. Seuss’s name to honor his legacy. All of these descriptions are very positive and flattering and imply the author admires Dr. Seuss.

Reading Passage 22

1. The primary focus of the passage is the Civilian Conservation Corps (CCC) and some of its projects. While the passage does mention that it was President Roosevelt who created the CCC, the focus of the passage is not on his legacy, so answer choice (A) is incorrect. We know from the passage that the CCC was created as a result of the great depression, but the passage doesn’t go into any of the other impacts in detail, so answer choice (B) is incorrect. The passage doesn’t mention the leaders of the CCC, so answer choice (C) is incorrect. **The passage is primarily concerned with the projects and history of the CCC, so answer choice (D) is the correct answer.**
2. Lines 7-8 tell us that Franklin D. Roosevelt “pioneered” the CCC. We know from the passage that the CCC was part of the larger New Deal program and was created in response to the great depression. It wouldn’t make sense for Roosevelt to end the CCC because it didn’t exist yet, so answer choice (A) is incorrect. Similarly it wouldn’t make sense for him to fight against it, so answer

choice (C) is incorrect. Again, because the CCC didn't exist yet, Roosevelt could not have discovered it, so answer choice (D) is incorrect. **As a way to help the country after the great depression, Roosevelt created or developed the New Deal which included the CCC, so answer choice (B) is the correct answer.**

3. In the last paragraph the author talks about how with the start of WWII came the draft, and millions of young men were commissioned to fight. **The author says this provided work for millions of Americans and effectively ended the CCC, which was a program designed to provide jobs to young men, so answer choice (C) is the correct answer.**
4. We know from the passage that the CCC was part of the New Deal which was created by President Roosevelt in response to the economic hardships of the Great Depression. Nowhere in the passage does it say the CCC was instrumental in the development of air travel in the US, so answer choice (A) is incorrect. The passage tells us the CCC was created in response to the great depression during the 1920's, and ended with the start of WWII in 1942, lasting over 10 years and during this time it created millions of jobs for Americans, so answer choice (C) is incorrect. The passage never mentions WWI, so answer choice (D) is incorrect. Lines 17-21 tell us that the major goal of the CCC was to provide jobs to young men. **We can infer that this was because the thought was if young men had jobs it would help them to get out of economic hardship and thus pull the United States out of the Great Depression, so answer choice (B) is the correct answer.**
5. Lines 41-43 state "With this declaration came the draft, and millions of young men were commissioned to fight." When referring to war, a draft is when a country that doesn't have enough soldiers to fight, requires people (usually men) of a certain age to enlist in the military. Knowing that in this context the word "commissioned" most nearly means commanded, because the US would have commanded young men to fight in the war. **Answer choice (C) is the correct answer.**

Reading Passage 23

1. The main purpose of this passage is to educate the reader on the history of *Monopoly*, which is one of the most popular board games of all time. While the passage does mention that the original game monopoly was based off of was created to show monopolies were not a good thing, the passage itself doesn't focus on this as its main idea, so answer choice (A) is incorrect. The author doesn't say what he/she thinks is the best board game ever, so answer choice (B) is incorrect. While the passage does mention Lizzie Magie's role in the creation of *Monopoly*, it is only in the beginning and not the main focus of the passage, so answer choice (D) is incorrect. **The passage is mainly focused on the origin and history of *Monopoly*, so answer choice (C) is the correct answer.**
2. The passage never says that Lizzie Magie was passionate about board games, so answer choice (A) is incorrect. Lines 2-7 tell us that Lizzie Magie was an avid anti-monopolist and she created the game as a teaching tool to help people understand why concentrating money and land in the hands of a few wealthy individuals was a bad thing. She was not a supporter of big business and monopolies, she was actually the opposite, so answer choice (B) is incorrect. The passage does not mention that

Magie thought the game would be a huge success, so answer choice (C) is incorrect. **Magie created the game as a teaching tool and she did this to promote her values and beliefs, so answer choice (D) is the correct answer.**

3. From the passage we learned that Lizzie Magie created a game she called *The Landlord's Game* in 1904. The rights to that game were eventually bought and sold to the game-producing company Parker Brothers. Lines 18-20 state “They would patent the game as *Monopoly* in 1935.” From this we know Parker Brothers changed the name of the game from *The Landlord's Game* to *Monopoly* when they sold it, so the word “patent” must have something to do with changing a name. **The word trademark means a word, phrase, or symbol that identifies or distinguishes a brand or product, an example of a trademark is the name of a board game, so answer choice (B) is the correct answer.**
4. Lines 31-34 state “Since its inception in the early 20th century, *Monopoly* has gone on to produce hundreds of different versions in dozens of different countries.” Answer choice (A) is incorrect because we know that *Monopoly* is still around today so it did not collapse. Contextually it wouldn't make sense to say since its popularity, so answer choice (B) is incorrect. We know that *Monopoly* is a product that was made and not discovered, so answer choice (C) is incorrect. **We know that *Monopoly* was created in 1935, which is the early 20th century, so answer choice (D) is the correct answer.**
5. Lines 43-46 state “Hasbro, the company that now owns *Monopoly*, claims that they print over \$30 billion in game money every year.” From that we can see that Hasbro now owns *Monopoly* and we know that Parker Brothers owned it when the game first released. **We can assume that Parker brothers sold *Monopoly* to Hasbro, so answer choice (A) is the correct answer.**

Reading Passage 24

1. The main purpose of this passage is to inform the reader about the most popular strain of bananas and a potential disease that could wipe them out. The passage does mention one difference between bananas and apples, but it isn't the main focus of the passage, so answer choice (A) is incorrect. The passage does not talk about how scientists prepare for disease outbreaks, so answer choice (B) is incorrect. The focus of the passage is not on how strong bananas are today, so answer choice (D) is incorrect. **The passage does talk about the potential threat to today's bananas from new diseases, so answer choice (C) is the correct answer.**
2. Lines 5-6 state “However, the banana as we know it is in imminent danger.” The word “imminent” is describing the word danger and the sentence sounds like a warning for something that could potentially happen in the future. It wouldn't make sense to say important danger, so answer choice (A) is incorrect. As previously stated, the sentence seems to be talking about the future so answer choice (B) is incorrect because severe danger wouldn't make sense in this context. Danger is most likely something significant unless otherwise stated, so answer choice (C) is incorrect. **Because the**

sentence seems to be talking about some future danger, answer choice (D) makes the most sense in this situation.

3. Lines 9-12 state “Unlike other fruits, such as apples or oranges, the Cavendish banana is sterile and cannot reproduce on its own.” **Therefore, answer choice (B) is the correct answer.**
4. Lines 26-30 talk about the Gros Michel banana, which was once the most popular type of banana sold at supermarkets until it was completely wiped out by a fungal disease called Fusarium Wilt. **Lines 30-33 tell us that the Cavendish banana was chosen simply because it was resistant to this disease, so answer choice (A) is the correct answer.**
5. We know from the passage that the Gros Michel banana was the most popular banana sold until it was wiped out by a fungal disease, so we know that fungal diseases pose a threat to bananas. The Cavendish banana is resistant to the disease that wiped out the Gros Michel banana but lines 34-36 state “However, over time new diseases have evolved, such as the Black Sigatoka and Panama disease.” **When a disease evolves it changes and that could lead to a completely new disease that the Cavendish banana is not resistant to, so answer choice (B) is the correct answer.** The passage does not talk about any of the issues in the other answer choices as potential threats to the modern-day banana, so they are all incorrect.

Reading Passage 25

1. The main purpose of the passage is to describe the unique life of the Sentinelese people, who live on North Sentinel Island completely isolated from the modern-day world. The author never condemns any tribe in the passage, so answer choice (A) is incorrect. The passage doesn’t focus on the island the tribe is from, so answer choice (C) is the correct answer. While the passage does talk about foreign exploration briefly, the author doesn’t say whether he/she feels it is important or not, so answer choice (D) is incorrect. **The author’s main purpose in writing the passage is to provide information about the unique culture of the Sentinelese people, so answer choice (B) is the correct answer.**
2. The fourth paragraph in the passage talks about how the Indian government strictly prohibits anyone from coming within 5 nautical miles of North Sentinel Island. Lines 36-34 state “This is not only to protect foreigners, but more so to protect the people. Due to the lack of genetic diversity, their immune systems are compromised.” **Having a compromised immune system would make you very susceptible to outside illnesses, so answer choice (C) is the correct answer.**
3. The word succumbed means to yield to or give into something. Lines 27-30 state “Over the years, stranded ships, fishing boats, and illegal hunters have succumbed to the arrows of the Sentinelese people should they get too close” Answer choices (B), (C), and (D) do not make sense grammatically in the sentence, so they are incorrect. Answer choice (A) makes sense grammatically and contextually, because it would make sense for someone to surrender to someone who was firing arrows at them. **Because of this answer choice (A) is the correct answer.**

4. The second paragraph talks about an explorer named W.V. Portnman who kidnapped six of the native Sentinelese people. The paragraph goes on to say that because they died while in captivity and the island lacked valuable resources, the British largely left the Sentinelese people to themselves. **Therefore, answer choice (A) is the correct answer.**
5. Lines 37-42 state “Due to the population’s small size and lack of genetic diversity, their immune systems are compromised. Contact with even the most common illness, like the cold or the flu, can be potentially fatal to the average citizen.” If someone might die from getting the cold or the flu, they would be considered to have a weak immune system compared to the average person. Because the word compromised is describing the Sentinelese people’s immune system, we can substitute the word weakened and it makes sense in the context of the passage. **Therefore, answer choice (C) is the correct answer.**

Reading Passage 26

1. *How to Avoid Dangerous Bacteria* is not the best choice for a title of the passage because the passage doesn’t go into detail about avoiding dangerous bacteria, so answer choice (A) is incorrect. The main focus of the passage is to educate the reader on the surprising facts about bacteria in the human body. **The title *Surprising Truth about Bacteria* captures the main theme and explains what the passage is about, so answer choice (B) is the correct answer.** *The Wonders of the Human Body* is too broad of a title and doesn’t give enough information on what the passage is about, so answer choice (C) is incorrect. *Tips for Staying Healthy* is not the best choice for a title of the passage because while the author does briefly give some tips to stay healthy at the end of the passage, it is not the main focus of the passage as a whole, so answer choice (D) is incorrect.
2. Causing disease or death would not be a benefit of anything, so answer choice (A) is incorrect. Antibiotics are used to kill bacteria and not the other way around, so answer choice (C) is incorrect. The passage does not mention bacteria creating new genes in the human body, so answer choice (D) is incorrect. **Lines 14-17 state “The bacteria in our gastro-intestinal tract, for example, carry the genes and produce the enzymes necessary for us to digest foods and absorb nutrients.”, so answer choice (B) is the correct answer.**
3. Lines 22-24 state “Only under certain conditions can these advantageous bacteria become pathogenic and cause disease and death.” From the context we can see that the bacteria start off being advantageous or beneficial to us and then they become pathogenic and can cause disease and death. **From this we can infer that changing from advantageous to pathogenic means going from beneficial to harmful, so answer choice (D) is the correct answer.**
4. Lines 24-27 state that things like environmental stress, smoking, and acidic foods can upset the equilibrium between human cells and bacteria. **Equilibrium is a word that means balance, so answer choice (C) is the correct answer.**

5. We know from the passage that all humans have helpful bacteria in their bodies, so answer choice (B) is incorrect. The passage doesn't talk about people learning about bacteria in school, so answer choice (C) is incorrect. While the passage mentions how powerful antibiotics can kill beneficial bacteria, it doesn't say that people intentionally do this, so answer choice (D) is incorrect. Paragraph 2 states "While many of these microorganisms are known to cause illnesses among the sick, in healthy individuals they peacefully coexist with their host (our bodies) and, contrary to popular opinion, play a vital role in many bodily functions." **If the fact that bacteria can be beneficial is contrary to popular opinion, that would suggest that some or many people don't know that some bacteria is helpful, so answer choice (A) is the correct answer.**

Reading Passage 27

1. The primary purpose of the passage is to tell a story of a family who is recovering from a grave loss. While christmas trees are mentioned in the passage, it's not to argue that they are important, so answer choice (A) is incorrect. The passage does talk about the death of a mother, but this is not the primary purpose of the passage as a whole, so answer choice (B) is incorrect. While family traditions are discussed in the passage, it is only at the beginning and end of the passage and not the main focus of the passage, so answer choice (C) is incorrect. **The main purpose of the passage is to describe how a family starts to recover from the loss of a mother, so answer choice (D) is the correct answer.**
2. The first paragraph in the passage tells the reader that Thanksgiving is a hard day for the narrator. The narrator says it's not hard because of the day itself but because of what the day marked. The narrator says his mother had died six months earlier than thanksgiving, so answer choice (B) is incorrect. The narrator never says Thanksgiving was his mother's favorite holiday, so answer choice (C) is incorrect. While the passage does say that it was the narrator's mother who usually gave the final approval on the tree, it doesn't say that he is worried they won't find a good tree this year, so answer choice (D) is incorrect. **The narrator implies that Thanksgiving will be hard this year because traditionally it was spent with his whole family and this year his mother will not be there, so answer choice (A) is the correct answer.**
3. Lines 49-52 say that the narrator's father tells the narrator's younger brother Arthur that it is ok to have new traditions, this is referring to the tradition of the narrator's mother usually giving final approval of the christmas tree. She had passed away and so she could no longer do this. The narrator's father says to Arthur that he thinks Arthur's mother would want the family to trust Arthur's judgment and that it is his pick. **This implies that the family went with the tree that Arthur picked out, so answer choice (C) is the correct answer.**
4. Lines 29-31 state "There were a lot of condolences and many people saying 'I know this must be hard'." We know from the passage that the narrator's mother had passed away six months prior to thanksgiving, so we can infer that his family members would be offering their understanding. **This is further supported by the fact that the example the narrator uses is that his family says I know**

this must be hard, which implies they have sympathy for the narrator, so answer choice (C) is the correct answer.

5. Lines 35-38 state “Also like normal, we all jumped into the car with our hot chocolate and began to drive to ‘our’ section of forest where we always cut the tree down.” The word our is in quotes and this tells us that the author doesn’t literally mean they own the forest, but rather that they always go to this specific section of forest so it feels like their special part. For this reason answer choice (A) is incorrect. The paragraph does not mention anything about the family choosing a tree from their mother’s favorite spot, so answer choice (C) is incorrect. The second part of the paragraph talks about the fact that although it usually doesn’t snow this early in Washington, there was a light dusting of snow on this particular afternoon. This isn’t said in relation to the family’s plans about getting a tree, but more as just an observation, so answer choice (D) is incorrect. We know that the family goes to the same place each year to get their tree, so much so that they refer to the place they go as “our” part of the forest. **Since they go to the same place every year, that is considered a tradition, so answer choice (B) is the correct answer.**

Reading Passage 28

1. The primary purpose of this passage is to educate the reader and give background about the life and career of the most decorated athlete in American skiing history. While the passage does mention Vonn’s olympic career, it doesn’t go into detail about that specifically, so answer choice (A) is incorrect. From the passage we can clearly infer that Vonn was a very dedicated athlete, but the main focus of the passage isn’t on the importance of dedication, so answer choice (C) is incorrect. The passage briefly mentions Vonn’s junior ski racing career, but it is only one sentence and not the primary purpose of the passage, so answer choice (D) is incorrect. **The passage is primarily concerned with the career and accomplishments of Lindsey Vonn, so answer choice (B) is the correct answer.**
2. The passage never says Lindsey’s father won an olympic medal so answer choice (A) is incorrect. The passage also tells us that it was Lindsey’s grandfather who taught her how to ski before the age of two and we can infer that her grandfather was her primary ski trainer, so answer choices (B) and (D) are incorrect. **Lines 2-5 state “Her father, Alan Lee Kildow, was a talented skier who won a US national junior title before a career-ending knee injury.”, so answer choice (C) is the correct answer.**
3. The second paragraph in the passage talks about how Lindsey grew up skiing in the flatlands of Minnesota. It also talks about how her family would drive 16 hours from Minnesota to Vail, Colorado so that Lindsey could learn to ski bigger terrain. That would imply that Colorado had better skiing than Minnesota, so answer choice (A) is incorrect. The passage never mentions whether or not Lindsey enjoyed the 16-hour car rides, so answer choice (B) is incorrect. While we can infer that skiing in Colorado helped Lindsey become the skier she is today, we can’t know for sure that if she hadn’t skied in Colorado that she would not be famous today, so answer choice (C) is incorrect. **What we can assume is that because Lindsey’s family was willing to drive such a long way so**

that she could ski better terrain, they were very dedicated to helping her ultimately succeed, so answer choice (D) is the correct answer.

4. Lines 47-50 state “Vonn would go on to compete in the 2010 and 2018 winter olympics, eventually amassing two bronze and one gold medal.” Founding and discovering do not make contextual sense in this sentence as people don’t discover or find medals at the olympics, so answer choices (B) and (D) are incorrect. While athletes do fight for or compete to get medals, the way the sentence is structured this answer choice does not fit either, so answer choice (C) is incorrect. **The sentence is trying to say that during the two olympic games Lindsey won or earned these medals, so answer choice (A) is the correct answer.**
5. Lines 51-52 state “She remains the most decorated athlete in American skiing history.” This sentence comes directly after a sentence telling us that Vonn won two bronze and one gold medal at the olympics. There is nothing contextually that would make us think that the sentence was talking about Vonn’s attractiveness, so answer choice (A) is incorrect. Similarly the sentence isn’t talking about Vonn being the most visible athlete, so answer choice (B) is incorrect. An olympic athlete that is as successful as Lindsey Vonn would not be forgotten, so answer choice (D) is incorrect. **The sentence is trying to say that because Vonn won so many medals, she is the most successful or accomplished athlete in American skiing history, so answer choice (C) is the correct answer.**

Reading Passage 29

1. The main purpose of the passage is to tell a story of Steve’s first time skiing. The author does not mention whether or not he/she feels that skiing is dangerous, so answer choice (A) is incorrect. While the passage does say that Steve was not as adventurous as his sister, it doesn’t argue why Steve has avoided skiing until now, so answer choice (B) is incorrect. While we know from the passage that this is Steve’s first time skiing, the passage doesn’t go into the details of Lydia teaching him, so answer choice (C) is incorrect. **The passage does focus on the time leading up to Steve trying skiing for the first time, so answer choice (D) is the correct answer.**
2. Lines 1-3 state “The highest point in Florida is an unassuming hill near the Alabama border.” Using context and what we already know about geography we can assume that the hill being described is not very big because it is in Florida and there are not any tall mountains in Florida, so answer choices (A) and (C) are incorrect. Contextually it doesn’t make sense to describe a hill as boring, so answer choice (B) is incorrect. **The sentence is trying to imply the hill was not very big or it was modest, so answer choice (D) is the correct answer.**
3. Nothing in the passage suggests that Steve is annoyed or upset with his sister, so answer choice (A) is incorrect. The passage tells us that this is Steve’s first time skiing and that his sister Lydia is the adventurous one in the family, so answer choice (B) is incorrect. The passage doesn’t give us any reason to believe that Steve doesn’t trust his sister. In fact the opposite is probably true because he is doing something that he is a bit nervous to try, so answer choice (C) is the correct answer. **Although**

Steve is a little nervous about skiing for the first time, he is willing to try it with his sister, so answer choice (D) is the correct answer.

- The last two lines in the passage state “Steve followed her finger as Lydia pointed impossibly high on the mountain. She started to ski away from Steve, ‘But don’t forget, that’s only the bunny hill’.” The first sentence implies that Steve felt that where Lydia was pointing was very high on the mountain. The second sentence tells us that Lydia was only pointing to the bunny hill. A bunny hill is a small hill on a ski mountain that is used to help new skiers learn how to ski without putting them in danger on the full mountain. **If Steve felt that the bunny hill was “impossibly high” on the mountain, we can infer that he underestimated the size of the mountain and it is much larger than he anticipated, so answer choice (A) is the correct answer.**
- While Lydia probably enjoys working with young children, the passage never says this directly, so answer choice (A) is incorrect. The passage never mentions that Lydia can take off work to go skiing whenever she wants or that her employer pays for her ski trips, so answer choices (C) and (D) are incorrect. A good work-life balance means that someone's job allows them to also have time to do the things they want to do outside of work. Lines 20-21 state “She loved her job because it gave her time to explore her passion for skiing.” **This would imply that Lydia has a good work-life balance, so answer choice (B) is the correct answer.**

Reading Passage 30

- The primary purpose of the passage is to tell the story of Carlos’s first time climbing in a climbing gym. The passage does not really focus on the struggles faced by children, so answer choice (B) is incorrect. While Carlos does face his fears and everything turns out ok, that is not the main focus of the passage as a whole, so answer choice (C) is incorrect. The passage does show how Carlos supported his friend by going to her birthday party but this is also not the main focus of the passage, so answer choice (D) is incorrect. **The passage is focused on describing Carlos’s anxiety around his first time climbing in a climbing gym, so answer choice (A) is the correct answer.**
- Lines 1-3 state “The climbing gym in Baltimore had been open for seven years, but Carlos had avoided going there like the plague.” The plague that the sentence is referring to is the Black Death that killed millions of people during the 1300’s. By saying Carlos avoided the climbing gym like the plague, the author is implying that he avoided it as much as someone would avoid the Black Death. **The Black Death would have been something people avoided at all costs because it was an extremely deadly disease, so answer choice (C) is the correct answer.**
- The last paragraph is focused on Carlos finally conquering his fear and climbing for the first time. He realizes it isn’t as bad as he had built it up to be. Once he reaches the top he calls down to his friend Lilly and asks her what to do now. Lines 53-54 state “‘Whoops, I forgot to tell you!’ Lilly said while smirking, ‘JUMP!’” **The author tells us Lilly is smirking to imply that she didn’t actually forget to tell Carlos how to get down but rather purposely did not tell him, so answer choice (B) is the correct answer.** This doesn’t make Lilly a bad friend because Carlos ultimately had a

good time, so answer choice (A) is incorrect. The last paragraph doesn't say anything about Carlos buying a gym membership, so answer choice (C) is incorrect. The last paragraph also doesn't say anything about Carlos never climbing again, so answer choice (D) is incorrect.

4. We can infer that Carlos did not want to face his fear of heights because the passage tells us that the climbing gym had been open for seven years and Carlos had never gone, so answer choice (A) is incorrect. The passage never mentions Carlos not wanting to get made fun of as a reason he felt he had to go to Lilly's party, so answer choice (B) is incorrect. While the passage does say that Carlos figured he didn't have to climb if he went, this is not why he felt obligated to go but rather a justification for going, so answer choice (D) is incorrect. Lines 13-15 state "Lilly was one of his best friends, and Carlos hadn't missed her birthday party in more than 10 years." **This tells us that the reason Carlos felt obligated to go to Lilly's party was because they were best friends and he hadn't missed her birthday in a long time, so answer choice (C) is the correct answer.**
5. The passage doesn't imply Carlos was afraid of getting hurt while climbing, so answer choice (A) is incorrect. While the passage does imply that Carlos felt climbing up and down the wall was repetitive, this is only used as a justification for his fear, so answer choice (B) is incorrect. We know from the first paragraph that his friend had invited Carlos to go climbing before, so answer choice (C) is incorrect. Lines 7-8 state "'Heights have never been a 'fun' thing,' he would add." This hints that maybe the real reason Carlos has never climbed is because he is afraid of heights. This is further supported in lines 41-42 which state "'You ready, Carlos?' Lilly yelled over at him. He looked at her nervously, 'I guess as ready as I will be?'" Carlos being nervous before he starts to climb implies that he is afraid, so we can assume it is a fear of heights as climbing involves going up high. **Between these two clues we know that answer choice (D) is the correct answer.**

Reading passage 31

1. This passage explains why zoos are unethical and provides many reasons and examples to back up this claim. While the passage provides facts about zoos in general, it isn't focused on one zoo in particular, so answer choice (A) is incorrect. While the passage does mention some advantages of zoos, it is much more focused on the disadvantages, so answer choice (C) is incorrect. Although the author clearly feels zoos are not a good thing, the passage never insists that all zoos be shut down immediately, so answer choice (D) is incorrect. **The author is primarily concerned with making the argument that zoos are unethical, so answer choice (B) is the correct answer.**
2. Paragraph three goes over the benefits the author feels advocates of zoos argue for. These include zoos being an educational resource (line 24), zoos creating jobs (line 27), and zoos helping the tourism industry (lines 27-28). **The passage does not mention zoos healing injured animals as a benefit, so answer choice (D) is the correct answer.**
3. The passage mentions that animals are often not allowed to bond with their own species in zoos, so answer choice (B) is incorrect. The passage does not mention that animals in zoos learn to communicate with other species or that they are antagonized by humans, so answer choices (C) and

(D) are incorrect. **Lines 5-6 state “Many animals are not provided with adequate living space...”, so answer choice (A) is the correct answer.**

4. The passage does not talk about animals experiencing premature death, so answer choice (A) is incorrect. Lines 3-5 state “Even in the best living conditions, captivity cannot replicate the natural habitat of wild animals.”, so answer choice (B) is incorrect. While the passage does say that interacting with humans has negative impacts, it does not say they are life threatening, so answer choice (D) is incorrect. Lines 10-11 state “These conditions lead to feelings of isolation, boredom, and loneliness.” **These are all things that in humans would be considered negative mental effects, so answer choice (C) is the correct answer.**
5. Lines 18-21 state “Research has shown that when animals imprint on humans, this prevents them from experiencing their own identities as animals.” This implies that imprinting on humans must refer to something about the animals behavior changing as a result of being in captivity and exposed to humans. The context does not imply anything about the human changing in this situation, so answer choice (B) is incorrect. This context also does not imply that animals learn behaviors from their parents, so answer choice (C) is incorrect. Nothing in the passage tells us that humans intentionally train animals to behave like them, so answer choice (D) is incorrect. **Since we know that the sentence implies that imprinting on humans refers to something about the animals behavior changing, it makes sense that the author was trying to say that animals learn behaviors from humans, so answer choice (A) is the correct answer.**

Reading Passage 32

1. The primary focus of the passage is to educate the reader on the hunting tactics of the praying mantis. While the passage does imply that praying mantises are strong, it doesn't say they are the strongest insect, so answer choice (A) is incorrect. The passage does not compare the praying mantis to any other insect, so answer choice (C) is incorrect. While the passage does describe what the praying mantis looks like, this is only briefly done in the beginning of the passage and is not the main focus, so answer choice (D) is incorrect. **The main purpose of the passage is to describe the praying mantis and what makes it such a good hunter, so answer choice (B) is the correct answer.**
2. Lines 3-6 state “The name ‘praying mantis’ comes from the structure and shape of the insect’s body: the front legs are bent at an angle that suggests a position of prayer.” **This tells us the name praying mantis describes the body of the insect, so answer choice (B) is the correct answer.**
3. Lines 14-19 state “While these features are extremely helpful for catching prey, the praying mantis’ legs are their most useful feature. Praying mantis use their front legs to snare their prey, with reflexes so fast they are difficult to see with the naked eye.” These sentences tell us that praying mantis’ move very quickly and use their legs to catch prey, so we know snare must have a similar meaning to catch. **The answer choice that is closest in meaning to catch is trap, so answer choice (D) is the correct answer.**

4. While the author does say that the praying mantis is a formidable predator, we cannot assume the author feels the praying mantis is the “most” dangerous predator, so answer choice (B) is incorrect. The author also talks about praying mantis’ being able to catch small birds and fish, but this does not mean that he/she believes the praying mantis is stronger than most birds and fish, so answer choice (C) is incorrect. The passage never says anything about the praying mantis being the most aggressive insect, so answer choice (D) is incorrect. The passage does talk about the praying mantis being able to catch prey that are over twice as big as it is. **This would imply that the author would not underestimate the praying mantis because of their size, so answer choice (A) is the correct answer.**
5. In the passage the ability of the praying mantis to turn its head 180 degrees is mentioned while the author is discussing what makes the praying mantis such an adept hunter. We can assume then that this ability must be useful in some way while they are hunting or else the author would not have mentioned it at this point in the passage. Confusing other creatures, looking out for potential threats, and finding shelter during bad weather don’t directly correlate with being a good hunter, so answer choices (A), (B), and (D) are incorrect. **Scanning its surroundings for prey would definitely help a praying mantis while it is hunting, so answer choice (C) is the correct answer.**

Reading Passage 33

1. The main purpose of this passage is to educate readers on why there is confusion surrounding the tomato and its classification as a fruit or vegetable. The passage does not compare or contrast any fruits or vegetables with each other, so answer choice (A) is incorrect. While the passage does talk about tomatoes, which have a complicated classification, it doesn’t focus on presenting fruits that people consider vegetables. For this reason answer choice (B) is incorrect. The passage mentions a court decision regarding the classification of tomatoes but does not say anything about it being controversial or condemning the decision. For this reason answer choice (D) is incorrect. **The main focus of the passage is the confusion around the classification of tomatoes, so answer choice (C) is the correct answer.**
2. While we know that some people have heard of the Supreme Court ruling on tomatoes, we cannot assume or infer that everyone has based on this passage, so answer choice (B) is incorrect. The passage doesn’t go into people’s reaction to the Supreme Court ruling on tomatoes or whether people feel the Supreme Court should have the authority to define tomatoes, so answer choice (C) is incorrect. From the passage we know that some people consider tomatoes fruits, so those people must respect the botanical definition of a tomato. This would make answer choice (D) incorrect. The first paragraph of the passage tells us that many people might laugh if you called a tomato a vegetable, but that the correct answer is trickier than most people know. The reason it is trickier, according to the passage, is because the Supreme Court ruled a tomato a vegetable. **From this we can infer that at least some people don’t know that the tomato is legally a vegetable, so answer choice (A) is the correct answer.**

3. Lines 22-27 state “During a 1893 court case in which the Supreme Court had to rule on whether tomatoes should be taxed as a fruit or a vegetable, the Supreme Court devised its own rules for distinguishing between fruits and vegetables...” Based on the context we can infer that this rule that the sentence is referring to is a new way to classify tomatoes, so the Supreme Court made it up for the first time. It wouldn’t make sense then to say the Supreme Court ignored or banned its own rules, so answer choices (B) and (D) are incorrect. **Between the two remaining choices, created is the better of the two, so answer choice (A) is the correct answer.** If created was not a choice, suggested could work but it does not fit into the meaning of the sentence as well.
4. Lines 22-25 state “During a 1893 court case in which the Supreme Court had to rule on whether tomatoes should be taxed as a fruit or a vegetable...” **Therefore, answer choice (B) is the correct answer.**
5. Nothing in the passage suggests that the botanical definition of tomatoes is easily understood by most people, so answer choice (A) is incorrect. We know from the passage that the botanical classification of a tomato is a fruit and the legal classification of a tomato is a vegetable, so answer choice (C) is incorrect. The passage tells us that botanically the tomato is classified as a fruit, so answer choice (D) is incorrect. Lines 30-31 state “Today, many people use this definition when classifying tomatoes.” That sentence is referring to the legal definition of tomatoes as a fruit. **If many people use the legal definition of a tomato that would mean the botanical definition of fruits doesn’t have much influence on how they classify tomatoes, so answer choice (B) is the correct answer.**

Reading Passage 34

1. The passage focuses on a highschool student, Devin, who is counting down the days until the school year is over. While the passage does paint the picture of highschool being challenging, it is focused on only one teenager and not teenagers as a whole, so answer choice (B) is incorrect. While the passage ends with Devin meeting a potential new friend and them sharing a similar taste in music, that is not the main idea of the passage, so answer choice (C) is incorrect. While the main subject of the passage, Devin, does complain about a lot of things, that is not the main idea of the passage, so answer choice (D) is incorrect. The passage is primarily focused on how Devin is really not enjoying or looking forward to the rest of his school year, but then he meets a new friend and his perspective changes. **The idea here is that even when times are tough, things can always get better, so answer choice (A) is the correct answer.**
2. While the passage does say that Devin hates physics, nowhere in the passage does it say he hates his physics teacher, so answer choice (C) is incorrect. While we can assume that Devin might not like waking up early or that he can’t stand jocks and cheerleaders, these are not the main causes of why he doesn’t like school, so answer choices (B) and (D) are incorrect. Lines 15-18 state “I dragged myself out of bed, grabbed a pair of jeans, and put on the same Nirvana sweatshirt I wear everyday - not that anyone at school would even notice.” This sentence implies that Devin does not think anyone at his high school pays enough attention to him to notice his clothes. Later in the passage a

new student, Sean, tells Devin he likes his sweatshirt and that Nirvana is his favorite band. This surprised Devin because he didn't expect anyone to talk to him. The passage goes on to illustrate that this interaction might have changed Devin's outlook on the rest of the school year for the better. Being noticed changed Devin's outlook on highschool, so we know the real reason he didn't like highschool was because he felt invisible. **Answer choice (A) is the correct answer.**

3. Lines 36-44 illustrate an interaction between Devin and Sean where Sean tells Devin that he likes Devin's sweatshirt. He goes on to say that Nirvana is his favorite band and that he's glad to see at least one person in the school has good taste in music. This is their first time meeting and the passage implies that they will become friends. **They initially bonded over their similar taste in music, so answer choice (C) is the correct answer.**
4. The Reader doesn't need to be reminded how many school days Devin had left because they could just go back and look over the passage, so answer choice (A) is incorrect. The passage never mentions Devin being excited to go to college, so answer choice (C) is incorrect. We know from the passage that Devin did not like highschool and couldn't wait for it to be done, so answer choice (D) is incorrect. The author continually repeats the phrase "42 days left" during the passage to signify how much Devin didn't like highschool. **It emphasizes Devin's desire to be done with high school, so answer choice (B) is the correct answer.**
5. At the start of the passage we can tell that Devin does not like highschool by the way he talks and thinks about it. The author talks about how Devin thinks the teachers drone on and make bad jokes, and how no one ever notices him in school. This feeling changes towards the end of the passage when Devin meets Sean and the two bond over their taste in music. Feeling like he might have a new friend and someone who shares a common interest makes Devin rethink how he feels about school. The passage does not indicate that Devin was feeling scared or terrified about highschool, so answer choice (A) is incorrect. The word indifferent means to not have any strong feelings about something one way or another and we know Devin does not like highschool, so answer choice (B) is incorrect. While his feelings about highschool definitely start to change at the end of the passage, saying Devin is excited is a little bit too much. He's more open to the idea that he won't hate it, so answer choice (C) is incorrect. **Answer choice (D) is the correct answer because Devin's feelings about highschool in the beginning of the passage can definitely be described as miserable and by the end of the passage he is feeling like maybe it won't be so bad, which is the same thing as bearable.**

Reading Passage 35

1. The main purpose of the passage is to educate the reader on the last remaining wonder of the ancient world: The Pyramid of Giza. The passage only talks about one pyramid and does not compare or contrast it with any others, so answer choice (A) is incorrect. Similarly the passage only talks about one wonder of the ancient world and not all of them, so answer choice (B) is incorrect. The passage does give some theories on how the Pyramid of Giza was built but no one actually knows for sure, so

answer choice (D) is incorrect. **The primary purpose of the passage is to provide information about the Pyramid of Giza, so answer choice (C) is the correct answer.**

2. We know from line 3 that the Pyramid of Giza was originally 481 feet tall. Lines 6-9 state “Due to erosion and the removal of the top piece, the current height of the pyramid is only about 455 feet tall.” Because the passage uses the word and we know that both the removal of the top piece and erosion have caused the pyramid to get shorter in height. Answer choice (B) is incorrect because we know that much of the pyramid is still standing. Answer choice (C) is incorrect because as stated before, both the removal of the top piece and erosion were cited as reasons the pyramid got shorter, so it wouldn’t make sense to say both if they meant the same thing. The passage doesn’t say the pyramid as a whole shrunk or that any chemical was involved, so answer choice (D) is incorrect. **The passage does say that the top of the pyramid was removed and we can infer that erosion refers to stone wearing away, so answer choice (A) is the correct answer.**
3. Lines 30-32 state “We may never come to a consensus about what methods were used to create such an amazing structure...” The paragraph previous to this sentence is talking about different theories on how the Pyramid of Giza was built. There are many theories but no one can say for sure according to the passage. **This implies that there is and may never be an agreement on how the pyramid was built, so answer choice (C) is the correct answer.**
4. The passage lists many theories on how the Pyramid of Giza was built. Some theories suggest that the Egyptians used ramps (line 25), that water was used to reduce friction (lines 28-29), and that wooden sleds were used during the construction (lines 26-27). **The only theory that wasn’t listed in the passage was ladders being built to place the higher stones, so answer choice (D) is the correct answer.**
5. The first paragraph in the passage introduces the reader to the Pyramid of Giza. The paragraph says that the pyramid is the largest of all the Egyptian pyramids standing at 481 feet tall and up until 1889 it was the tallest structure made by human hands. **This implies that in 1889 some structure that was taller than the Pyramid of Giza must have been built, so answer choice (D) is the correct answer.** The fact that some man-made structure that was taller than the pyramid was built in 1889 does not mean that that structure has remained the tallest human built structure to date, so answer choice (A) is incorrect. It also does not mean that the structure that was built in 1889 had to be a pyramid, so answer choice (B) is incorrect. Answer choice (C) is incorrect because a 460 foot tall structure would have been shorter than the Pyramid of Giza.

Reading Passage 36

1. The main purpose of this passage is to inform the reader about the sinking of the *Titanic* and the efforts to find and raise the wreckage. While the passage briefly discussed the events that led to the sinking of the *Titanic*, this is not the main focus of the passage, so answer choice (A) is incorrect. While the passage does talk about some of the ideas people had to raise the *Titanic* that didn’t end up being viable, it never argues that they are absurd, so answer choice (C) is incorrect. The passage

doesn't tell the reader much about the general history of the *Titanic*, so answer choice (D) is incorrect. **The primary purpose of the passage is to discuss the many efforts to find and raise the *Titanic* from the ocean floor, so answer choice (B) is the correct answer.**

2. Lines 16-18 tell us that several wealthy families of passengers hired a diving company to raise the *Titanic*, so answer choices (A) and (C) are incorrect because neither money or lack of experienced divers was not the issue. There was never any dispute over when the *Titanic* sank, so answer choice (B) is incorrect. All the attempts to find the ship sither failed or were never actually tried because the methods that were suggested were proven to be unrealistic. It wasn't until Robert Ballard was hired by the Navy and had access to the military's advanced technology that he was able to finally find the *Titanic*. **Therefore, answer choice (C) is the correct answer.**
3. Lines 13-16 state "Almost immediately after news of the *Titanic*'s sinking spread around the world, interested parties began discussing the best ways to salvage the sunken ship." The paragraph goes on to talk about a group of wealthy families that hired a diving company to try to find the ship. We know that the *Titanic* sank and that many people were interested in finding and raising it from the sea floor. In order for people to explore the *Titanic*, they would have to find it first, so answer choice (B) is incorrect. It wouldn't make sense for people to discuss ways to destroy the sunken ship as it was already destroyed, so answer choice (D) is incorrect. That leaves discover and recover as the possible answer choices. Both answers make sense, but because the ship had just sunk, recovering it fits better. **This is the same way if you dropped something into a pool and went down to get it you would be recovering it and not discovering it, so answer choice (C) is the correct answer.**
4. From the passage we know that Robert Ballard formed a company with the purpose of finding the *Titanic* in 1977 (lines 37-41). We also know that after that company folded, Ballard was hired by the Navy in 1985 (lines 44-46). While working for the navy, Ballard found the first piece of debris from the *Titanic* on September 1st, 1985. Finally later that day the ship was found which made headlines around the world. **From this we can see that the first event that happened was Ballard forming a company to find the *Titanic*, so answer choice (A) is the correct answer.**
5. Lines 44-48 state "Several years later, in 1985, the US Navy hired Ballard to work on several military projects, many still classified, concerned with finding submarines." **From this we can see that Ballard was initially hired by the Navy to recover sunken submarines, so answer choice (D) is the correct answer.**

Reading Passage 37

1. The primary concern of the passage is the invention and history of the clock. While the passage does mention grandfather clocks, the passage isn't focused on their history, so answer choice (A) is incorrect. In the first paragraph the passage does compare how different cultures view time, but this isn't the main focus of the passage. It is mentioned to introduce the main focus of the passage, so answer choice (B) is incorrect. The passage doesn't provide an account or any instructions on how to build timekeeping pieces, so answer choice (D) is incorrect. **The main purpose of the passage is to**

provide information on the history of clocks and other timekeeping pieces, so answer choice (C) is the correct answer.

2. The second paragraph of the passage discusses the creation of the first “clock”. It states that the ancient Egyptians first realized that the position of the sun could tell time over 3,000 years ago. Using a stick and the shadows it cast on the ground the Egyptians were able to tell “times” of day. The paragraph ends by saying this method still works today unless it’s cloudy. The reason this method would not work if it was cloudy is because it relies on the sun to tell the time. **By this logic we can infer that this method would also not work at night when the sun is not out, so answer choice (A) is the correct answer.**
3. Create means to bring something into existence, so that would mean that clocks had started to bring pendulums into existence. This doesn’t make sense, so answer choice (A) is incorrect. Find means to locate something, so this would mean that clocks started to locate pendulums. This also does not make sense, so answer choice (B) is incorrect. Choice (C) would make the sentence, clocks started to benefit from pendulums. While this could make sense it is not the best answer given the context. Utilize means use, which would mean clocks started to use pendulums. **Given the context this makes the most sense in the sentence, so answer choice (D) is the correct answer.**
4. The passage mentions many disadvantages of grandfather clocks. These include grandfather clocks being very heavy (line 29), difficult to move (lines 29-30), and very expensive (line 30). **The only disadvantage that the passage does not mention is grandfather clocks not being accurate, so answer choice (C) is the correct answer.**
5. Going back to the first question, the main purpose of this passage is to educate the reader on the history of clocks and other timekeeping pieces. The author is not trying to convince the reader of some argument, so answer choice (A) is incorrect. While the author certainly might be very interested in clocks and their history, the tone of the passage is not enthusiastic, so answer choice (B) is incorrect. The author is not warning the reader about anything, so answer choice (C) is incorrect. **The author is merely presenting information in an unbiased way to inform the reader, so answer choice (D) is the correct answer.**

Reading Passage 38

1. The passage is primarily concerned with telling the story of two friends who find themselves in a precarious situation. While the passage does illustrate the dangers of driving in a blizzard, this is not the main purpose of the passage, so answer choice (A) is incorrect. The two friends in the passage do have some minor disagreements, but this is not the focus of the passage, so answer choice (B) is incorrect. While the passage does show how both Kurt and Edward tried to stay positive during a bad situation, this is not the main point of the story, so answer choice (D) is incorrect. **The story is primarily concerned with two friends who after crashing their car in a blizzard, find themselves in an unfortunate situation, so answer choice (C) is the correct answer.**

2. The word dull means lacking interest or excitement. So the author is saying that the talk radio wasn't interesting or exciting. While the talk radio might have been political, this doesn't align with the definition of dull and wouldn't make sense in the context of the rest of the story, so answer choice (B) is incorrect. Calling the talk radio frustrating wouldn't make sense without further explanation, so answer choice (C) is incorrect. Quiet doesn't make sense because the author says that Kurt and Edward can hear the radio, so answer choice (D) is incorrect. **Boring makes sense in the context of the story and is the closest in meaning to dull, so answer choice (A) is the correct answer.**

3. In the last two paragraphs in the passage, Edward and Kurt are stuck in their car after just crashing, and they are discussing possible solutions to their predicament. Edward suggests waiting for a car to pass and flagging them down, but that idea is quickly shot down because the two realize a car would never be able to see them in the blizzard. Edward then asks Kurt if he has ever slept in the passenger seat of a car, to which Kurt replies "I guess there's a first time for everything." Nothing about their interaction implies they are getting annoyed with each other, so answer choice (A) is incorrect. As previously stated, the two agreed flagging down a passing car was not viable, so answer choice (B) is incorrect. In the second to last paragraph the two decide walking to the nearest town would be dangerous, so answer choice (C) is incorrect. **From their final interaction we can assume that Kurt and Edward decided to sleep in their car for the night, so answer choice (D) is the correct answer.**

4. The passage never mentions Edward not being an experienced winter driver, so answer choice (A) is incorrect. The passage tells us that the pair avoided crashing into another car by swerving off the road, so answer choice (C) is incorrect. The passage never mentions where Edward lives, so answer choice (D) is incorrect. **The only thing the passage states is that Kurt wanted to make his interview the next day and that's why they continued driving in the blizzard (lines 10-11), so answer choice (B) is the correct answer.**

5. Nothing in the passage suggests that Kurt and Edward were terrified or regretful, so answer choice (A) is incorrect. The passage also doesn't give us any indication that the two were angry or frustrated with each other, so answer choice (B) is incorrect. While the reader might be concerned that the two men might die in the storm, the passage doesn't indicate Edward and Kurt were worried about it, so answer choice (C) is incorrect. The passage does imply the two were slightly nervous, which is understandable as they were realizing that each solution to their problem didn't actually make sense. **However the passage also implies that they were relatively calm about the situation, ultimately deciding to sleep in their car for the night and figure out the rest the next day, so answer choice (D) is the correct answer.**

Reading Passage 39

1. The main purpose of this passage is to educate the reader on the history of the National Park System in America. The passage doesn't suggest that the National Parks are in danger or that they need to be saved, so answer choice (B) is incorrect. While the passage does mention the establishment of the National Park System, this is a brief part of the passage and not the main focus, so answer choice (C)

is incorrect. Similarly the passage does discuss where a few National Parks are located but this is not the main focus of the passage, so answer choice (D) is incorrect. **The primary purpose of the passage is to provide information on the history of the National Park System, so answer choice (A) is the correct answer.**

2. Lines 7-10 state “Its inception began a worldwide trend of setting aside valuable and beautiful lands for public use. The word “inception” is referring to Yellowstone National Park and the impact it had on the rest of the world when it was first established in 1872. Recovery doesn’t make sense here because the park had just been established so there would be nothing to recover, so answer choice (B) is incorrect. Similarly, having just opened its popularity might not have had a chance to have an impact on the world, so answer choice (C) is incorrect. Significance would make sense if not for the context and the sentence before talking about when the park was first opened, so answer choice (D) is incorrect. **Because the surrounding sentences are talking about the park having just been opened, we can infer that the word inception most nearly means creation, so answer choice (A) is the correct answer.**
3. The phrase “a slew” in line 14 comes before a list of new National Parks that were established following Yellowstone. We know that the phrase a slew is describing the many parks that were created so we are looking for an answer choice that would mean something similar to many or a lot. One or two is not many, so answer choice (A) is incorrect. We know from the list of parks that thousands is too many, so answer choice (B) is incorrect. A specific collection does not indicate amount in any way, so answer choice (D) is incorrect. **A large number makes sense in the context of the sentence because the amount of parks created after Yellowstone could be described this way, so answer choice (C) is the correct answer.**
4. Paragraph 3 in the passage talks about the National Park System and how it managed all of the National Parks in the country. It did not however manage other sites such as monuments, conservation areas, etc. Lines 32-37 state “This changed in 1933 when President Roosevelt signed the *Organization of Executive Agencies*. This declared that all 56 existing non-National Park areas would now be managed by the National Park System. **So from that we can see that the purpose of the *Organization of Executive Agencies* was to expand the types of areas that would be managed by the National Park System, so answer choice (D) is the correct answer.** Answer choice (A) is incorrect because it describes the opposite of that. Answer choice (B) is incorrect because there was no new branch of government established. Answer choice (C) is incorrect because the new areas included were not redesignated as National Parks.
5. From the last paragraph we know that the National Parks protect over 52 million acres of land in this country. We also know that the National Park System has been referred to as “America’s best idea” because its goal is to protect wild and natural places. **From this we can infer that the purpose of the National Park System is to preserve and protect National Parks, so answer choice (B) is the correct answer.**

Reading Passage 40

1. The primary purpose of this passage is to tell the story of an aspiring author's journey to reach her goals. While the passage talks about publishing a book of poems, it does not give detailed steps on how to do this, so answer choice (B) is incorrect. The passage does not argue any points or try to persuade the reader, so answer choice (C) is incorrect. While the passage does talk about a middle schoolers poem, it does not mention her winning a poetry contest. Furthermore the passage as a whole is not focused on this, so answer choice (D) is incorrect. **The passage is focused on telling the story of an aspiring author Kiara and her journey to publishing her first book, so answer choice (A) is the correct answer.**
2. Lines 11-15 state “She found it comical that other students complained about ‘having’ to read every night. *All I have to do is read books and then write about it?* She would think to herself.” We can infer from that that Kiara doesn’t really consider having to read books every night a hard or inconvenient thing to do. We know from the passage that this is something Kiara already did and she enjoyed doing it. The author most likely put the word having in quotations to illustrate that Kiara didn’t understand why anyone would consider reading a book something they had to do when it was always something she wanted to do. **She enjoyed reading and it didn’t feel like a chore to her, so answer choice (D) is the correct answer.**
3. Lines 44-47 state “The waiting game to find out her fate felt like it was all part of the process, part of the journey to realizing a 20-year dream.” We can see from the sentence that the word realizing is referring to Kiara’s dream. It wouldn’t make sense in this context to say understanding a dream because it is Kiara’s dream and she obviously understands it, so answer choice (A) is incorrect. Similarly losing and finding don’t make sense in this situation because there would be no reason Kiara lost or for that matter found her dream, so answer choices (C) and (D) are incorrect. **Achieving makes the most sense in this context because Kiara is saying waiting to hear back from the publisher is all part of the process of achieving her 20-year dream, so answer choice (B) is the correct answer.**
4. The fourth paragraph in the passage tells us how Kiara felt about her job as a copyeditor. In the paragraph we learn that Kiara did like having access to people she wanted to learn about but the work she was doing was not her favorite. She didn’t really enjoy making sure the client's grammar was correct but she loved getting to read their text. **As we can see there were certain aspects of her job she enjoyed but overall she wasn’t fulfilled by the work, so answer choice (B) is the correct answer.**
5. The last paragraph of the passage talks about Kiara waiting to hear back from her publisher on if her book will be published. Lines 47-50 state “Her phone pinged with a new email, she took a deep breath and opened it. ‘*Congratulations, Kiara!*’” We know the email would not have opened with congratulations Kiara if her book had not been selected to be published as it would not make sense to

congratulate someone on not achieving their goal. **We can infer then that Kiara’s book will be published, so answer choice (D) is the correct answer.**

Practice Test 1 Answer Explanations

Verbal Reasoning

Synonyms

1. **Spontaneous** means happening or done in a natural, often sudden way. For example, making last minute dinner plans with your husband is a **spontaneous** decision. This is closest in meaning to answer choice (C) **impromptu**.
2. **Incapable** means unable to do or achieve something. For example, a newborn baby is **incapable** of walking. This is closest in meaning to answer choice (D) **inadequate**.
3. **Diverse** means having a great deal of variety. For example, the ocean is full of **diverse** creatures, from tiny plankton to gigantic whales. This is closest in meaning to answer choice (C) **varied**.
4. **Intimidate** means to frighten, especially in order to make someone do what you want. For example, bullies often try to **intimidate** the people they are bullying. This is closest in meaning to answer choice (A) **threaten**.
5. **Encourage** means to give support, confidence, or hope. For example, parents should try to **encourage** their kids to try new things. This is closest in meaning to answer choice (B) **motivate**.
6. **Imitate** means to copy someone. For example, babies often **imitate** what they see around them. This is closest in meaning to answer choice (B) **copy**.
7. **Moral** means ethical or having high character. For example, a judge should be a **moral** person because they have to make decisions which impact people's lives. This is closest in meaning to answer choice (A) **honest**.
8. **Daunting** means something that seems difficult, scary, or overwhelming. For example, climbing up Mount Everest seems like a **daunting** task to most people. This is closest in meaning to answer choice (B) **intimidating**.
9. **Widespread** means something found over a large area or number of people. For example, trees and plants are **widespread** in the Amazon Rainforest. This is closest in meaning to answer choice (D) **common**.
10. **Resentful** means feeling or expressing bitterness as a result of being treated unfairly. For example, if you lose a game because someone cheated, you might feel **resentful**. This is closest in meaning to answer choice (D) **bitter**.

11. **Oppose** means to actively resist or refuse to comply with something. For example, many people **oppose** the death penalty because they don't agree with it. This is closest in meaning to answer choice (A) **resist**.
12. **Detrimental** means harmful or damaging. For example, littering is **detrimental** to the environment. This is closest in meaning to answer choice (C) **harmful**.
13. **Omit** means to leave out. For example, a lawyer might lose his/her case if they **omit** an important detail of their argument. This is closest in meaning to answer choice (B) **exclude**.
14. **Insistent** means demanding or not allowing refusal. For example, a teacher is usually **insistent** on his/her students completing their homework. This is closest in meaning to answer choice (C) **demanding**.
15. **Assured** means promised or guaranteed. For example, when you buy a ticket to a concert, you are **assured** that you will be able to get in. This is closest in meaning to answer choice (D) **confident**.
16. **Fuse** means to blend or join together. For example, as broken bones heal, they **fuse** back together. This is closest in meaning to answer choice (A) **merge**.
17. **Scarce** means not easy to find or get. For example, overfishing can make some species of fish **scarce** in the ocean. This is closest in meaning to answer choice (C) **rare**.

Sentence Completion

18. **The correct answer is choice (D) outdated, which means old or obsolete.** This is an example of a continuation or restatement question. The clue in this question is the word “and” toward the end of the sentence. The first part of the sentence says Cara did not understand why she had to take etiquette classes so we know we are looking for an answer to support that idea. The answer choice won't be a positive word because Cara not understanding why she had to take the classes suggests she feels negatively about them, so answer choices (A) and (C) are incorrect. The last part of the sentence says she found the classes irrelevant in modern times, this is a clue that the answer we are looking for has to do with time period. Annoying doesn't have to do with time period so answer choice (B) is incorrect. Saying the class is irrelevant in modern times suggests Cara thinks the class is obsolete or **outdated**.
19. **The correct answer is choice (A) unconventional, which means unusual or not similar to what is normally done or believed.** This is an example of a continuation or restatement question. The clue is the word “and” in the middle of the sentence. The second part of the sentence says that Dickonson's style of writing challenged the existing definition of poetry and that she experimented with different techniques. This is the opposite of standard so we can cross off answer choice (B). The answer we are looking for is a word that means her writing style was not normal or conventional. This is another way of saying **unconventional**.

- 20. The correct answer is choice (B) permanent, which means lasting forever without significant change.** This is an example of a contrast and a continuation or restatement question. The clues in this sentence are the words “but” and “and” in the middle of the sentence. The word but tells us that whatever was stated before the word but will be in contrast to what is stated after. The first part of the sentence says that Susie thought the hair dye would wash out easily, so we know that the answer we are looking for would suggest that it won’t. The second part of the sentence confirms this saying it did not come out when she took a shower. This suggests that it was unchanged or **permanent**.
- 21. The correct answer is choice (A) permission, which means consent or authorization.** This is an example of a cause and effect question. The effect in this sentence is Frank not being allowed to participate in the field trip, so we are looking for a reason why this would be the case. It wouldn’t make sense for Frank to need an explanation, stipulation, or information from his parents to go on a field trip, so answer choices (B), (C), and (D) are incorrect. It does make sense that Frank would need his parents’ consent or **permission** to go on a trip with the school.
- 22. The correct answer is choice (C) challenging, which means difficult demanding.** This is an example of a contrast and a continuation or restatement question. The clues in this question are the words “but” and “and” in the middle of the sentence. In the first part of the sentence we learn that Brett had always been good at math. This would lead us to believe that if he was in a math class he would not find it difficult but because this is a contrast question we know that it is going to suggest the opposite of what we would normally assume. The second half of the sentence confirms this and states that he was struggling in calculus. If Brett is struggling it wouldn’t make sense for him to find the class straightforward or boring, so answer choices (A) and (B) are incorrect. Brett may find the class impractical but the sentence doesn’t suggest that, so answer choice (D) is incorrect. It makes sense that if Brett is struggling in calculus that he finds that class unusually demanding or **challenging**.
- 23. The correct answer is choice (A) appropriate, which means right for a particular situation or occasion.** This is an example of a cause and effect question. The clue in this question is the word “since” at the start of the sentence. The cause in this sentence is Mr. Ferris requiring all students to wear black dress pants to the chorus concert in the first part of the sentence. The sentence goes on to say that it would be blank attire for Billy to wear blue jeans. The blank in this question is describing Billy’s attire. Because the requirements were to wear black dress pants the effect was his attire of blue jeans not being proper or **appropriate**. The only reason we know wearing blue jeans was inappropriate is because we know Mr. Ferris required all students to wear black dress pants.
- 24. The correct answer is choice (D) nervous, which means uncomfortable or anxious.** This is an example of a continuation or restatement question. The second part of the sentence says that it was obvious that Sam wasn’t comfortable presenting in front of people. If someone is uncomfortable doing something we would expect them to be nervous or **anxious** while they are doing it and for that emotion to come through in their facial expressions.

- 25. The correct answer is choice (B) identical, which means exactly that same.** This is an example of a cause and effect question. The effect in this question is the suspect being released after being interrogated for hours. To figure out the answer we have to ask ourselves why a suspect would be released. A suspect is usually released when they are proven innocent. In this question the blank is referring to the suspect's DNA so we can infer that the suspect has been proven innocent because his DNA did not match or was **different** from the DNA found at the crime scene.
- 26. The correct answer is choice (D) deadly, which means causing or able to cause death.** This is an example of a continuation or restatement question. The second part of the sentence is going to be restating or continuing an idea from the first part. In the second part of the sentence we learn that World War II killed around 70 million people, so we know that the sentence is focusing on how many people died and the answer we are looking for most likely refers to that. The only choice that refers to how many people died is **deadly**.
- 27. The correct answer is choice (C) respect, which means consideration for others feelings, wishes, or traditions.** This is an example of a continuation or restatement question. The clues in this question are the words “not only” in the middle of the sentence. The first part of the sentence states that in many cultures it is important to remove your shoes before entering sacred places. The sentence goes on to say that this practice is not only for sanitary reasons but also as a sign of blank. Right off the bat we can eliminate choice (D) cleanliness because it wouldn't make sense to say this is done for not only sanitary reasons but also for cleanliness as these mean the same thing. We can also eliminate choice (A) interest because it just doesn't really make sense with the idea of the sentence. The whole sentence is focused on the idea of it being important to remove your shoes in some cultures and you wouldn't want to mock something that is important, so we can eliminate choice (B). What you would want to do if something was important to a culture would be to show **respect** for that tradition so you would not offend people of that culture.
- 28. The correct answer is choice (D) soothe, which means to reduce pain or discomfort.** This is an example of a cause and effect question. The cause in this question is Harry spraining his ankle. If we think about what happens when you sprain your ankle we know that it usually causes pain. We also know that people go to the doctor to find a way to fix a problem they are having, in this case pain caused by Harry's sprained ankle. Therefore we can assume that if Harry's doctor recommended for him to take a salt bath, this would be to reduce or **soothe** the pain.
- 29. The correct answer is choice (A) had no idea which aisle the pickles were in.** This is an example of a contrast question. The clues in this question are the words “even though” at the beginning of the sentence. The first part of the sentence tells us that Mariah had been to the store many times. Normally if you have been somewhere many times you would be pretty familiar with it and know the layout. The words “even though” tell us that the second part of the sentence is going to tell us something contrary to what we believe would normally be the case. If we would normally think that Mariah would know the layout of the store, the answer that is in contrast to that would be Mariah not knowing the layout and now knowing which aisles the pickles were in.

- 30. The correct answer is choice (B) despite not being able to read or write sheet music.** This is an example of a contrast question. The clue in this question is the word “but” in the middle of the sentence. The first part of the sentence sets up the idea that most people believe that all great musicians can read music. This is a logical belief and one that could potentially be true, but the sentence says the word “but,” so we know that the second part of the sentence is going to contradict this idea. The second part of the sentence starts off by bringing up Elvis, who was a very famous musician. In order to contradict the idea from the first part of the sentence, that all great musicians can read music, it only makes sense that the second part would give us an example of a great musician that could not read music. Elvis is a great musician, and the answer choice is that he could not read or write sheet music.
- 31. The correct answer is choice (A) coach ended practice early.** This is an example of a cause and effect question. The clue in this question is the word “since” at the start of the sentence. The cause in this sentence is the children looking exhausted. If someone was exhausted it would make sense to allow them to rest or take a break. Assigning more homework would give the children less time to rest so answer choice (B) is incorrect. Similarly their parents letting them stay up late would only exaggerate the problem, so answer choice (C) is incorrect. Their friends continuing to make jokes doesn’t really relate to the children being exhausted, so answer choice (D) is incorrect. If the children were exhausted it would make sense for this to cause their coach to end practice early so that they could get some extra rest.
- 32. The correct answer is choice (D) completed his science fair project early.** This is an example of a contrast and a cause and effect question. The first part of the sentence tells us that Roger is normally unmotivated and lazy when it comes to his schoolwork. This would lead us to believe that he probably didn’t complete assignments early or go above and beyond on his work. The second part of the sentence states that his teacher was pleasantly surprised when Roger blank. If the teacher was pleasantly surprised we can infer that the reason for this is because Roger did something that was out of the ordinary for him being a lazy student. If a lazy student would usually wait until the last minute to complete a project, completing his science fair project early would be in contrast to what he would normally do and would cause his teacher to be pleasantly surprised.
- 33. The correct answer is choice (B) unable to complete many of their daily tasks.** This is an example of a cause and effect question. The cause in this question is the fact that people didn’t have running water or electricity. First we can eliminate answer choice (A) because without electricity, your electric bill would not be higher. Answer choices (C) and (D) don’t really have anything to do with the fact that people didn’t have running water or electricity, so they are also incorrect. If we think about it, not having running water or electricity would make many daily tasks more difficult and cause most people to not be able to complete a lot of them.
- 34. The correct answer is choice (C) believed in nonviolent practices, such as peaceful protest.** This is an example of a contrast question. The clue in this question is the word “contrary” at the beginning of the sentence. This word lets us know that the sentence is going to give us one idea and contrast it with another. The first part of the sentence tells us that Malcom X was willing to use

physical force to fight for equality. The second part of the sentence starts off talking about Martin Luther King. answer choice (A) says pretty much the same thing that the sentence says about Malcom X, so it is incorrect because we are looking for a contrasting idea. While Answer choices (B) and (D) are most definitely true, they are not in contrast to the idea that Malcom X was willing to use physical force, so they are also incorrect. The opposite of someone who was willing to do whatever it took to fight for equality, including using physical force, is someone who believed in a less aggressive way of doing things, such as peaceful protests.

Quantitative Reasoning

1. The first part of the problem states that the number Tom wrote down is an odd number greater than 20 and less than 30, so our options are 27 and 29 (28 is even and 31 is greater than 30). The second part of the problem states that when Sue tried to guess the number, Tom told her the number was greater than 27 and less than 32, so that eliminates 27. **That leaves only 29, so answer choice (C) is the correct answer.**
2. The perimeter of any shape is equal to the sum of all its sides. Since a regular hexagon has 6 equal sides, the perimeter is equal to 6 times the side length. $6 \cdot 3s = 18s$, so answer choice (D) is the correct answer.
3. The ratio of pop songs to rock songs on Cary’s playlist is 7:3. This means that for every 7 pop songs on her playlist, there are 3 rock songs. If Cary has 21 rock songs on her playlist, the rock song part of our ratio (3) was multiplied by 7 to get 21 rock songs. We need to do the same to the pop song part of our ratio. Multiplying 7 times 7 results in 49 pop songs. **Answer choice (C) is the correct answer.**
4. For this problem, we suggest using the answer choices and working backwards. To do this, we will assume that Talia’s age is equal to one of the answer choices, we will use Talia’s age to find Wilson’s and Wendy’s ages, and then we will see if the sum adds to 50. Since Talia is twice as old as Wilson, her age needs to be an even number. Therefore, we can eliminate answer choices (A) and (B). Let’s check answer choice (C). If Talia is 20 years old, Wilson is 10 years old (Talia is twice as old as Wilson). Since Wilson is three times as old as Wendy, to find Wendy’s age, we would divide Wilson’s age by 3. Since 10 is not divisible by 3, answer choice (C) is incorrect. **We are left with answer choice (D) as the correct answer.** Talia is 30 years old, Wilson is 15 years old, and Wendy is 5 years old: $30 + 15 + 5 = 50$.
5. Since the perimeter is 24 cm, this means the sum of all of the sides equals 24. Let w represent the width of the rectangle. We know the top and bottom sides are each 8 cm, so $8 + 8 + w + w = 24$. This means $16 + 2w = 24$. Subtract 16 from both sides to get that $2w = 8$. Divide both sides by 2 to get $w = 4$. Now that we know the length is 8 cm and the width is 4 cm, multiply the length times width to find the area: $8 \text{ cm} \cdot 4 \text{ cm} = 32 \text{ square cm}$. **Answer choice (C) is the correct answer.**

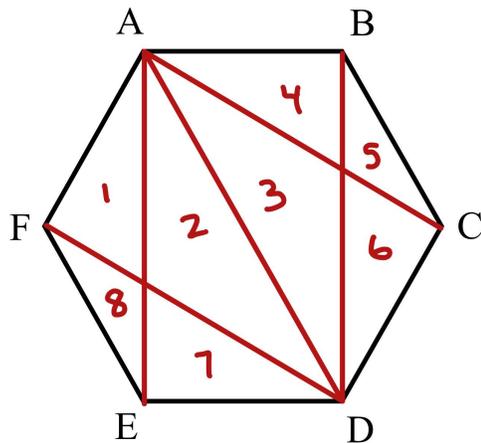
6. We are looking for a fraction that is greater than $\frac{1}{2}$ and less than $\frac{6}{7}$. Answer choice (B) is equal to $\frac{1}{2}$ and answer choice (D) is less than $\frac{1}{2}$, so we can cross out choices (B) and (D). $\frac{7}{8}$ is larger than $\frac{6}{7}$ because both fractions numerators are 1 less than their denominators. The smaller the denominator, the larger the pieces. The fraction $\frac{7}{8}$ is $\frac{1}{8}$ away from a whole whereas $\frac{6}{7}$ is $\frac{1}{7}$ away from a whole. Since $\frac{1}{8}$ is less than $\frac{1}{7}$, $\frac{7}{8}$ is closer to a whole and therefore greater than $\frac{6}{7}$, so answer choice (C) is incorrect. **That leaves $\frac{3}{5}$, so answer choice (A) is the correct answer.**
7. Find out how many minutes it takes Tyler to drive 1 mile by dividing 90 minutes by 80 miles to get 1.125 minutes per mile. Since Tyler and Hannah are driving the same speed, it also takes Hannah 1.125 minutes to drive 1 mile. To find out how long it takes Hannah to drive 120 miles, multiply 120 miles by 1.125 minutes per mile to get 135 minutes. **Answer choice (B) is the correct answer.**
8. The combined area of all the surfaces of the small cube is 12 sq ft. This is another way of saying the surface area of the small cube is 12 sq feet. First we need to find the area of one of the faces of the small cube. A cube has 6 identical faces, so find the area of one face by dividing the surface area by 6: $12 \div 6 = 2$ sq ft. We can see that 1 face of the larger cube is made up of 9 faces of the smaller cube (3 rows of 3 smaller cuber), so to find the area of 1 face of the larger cube multiply the area of one face of the smaller cube by 9: $2 \cdot 9 = 18$ sq ft. Finally to find the total combined area or surface area of the larger cube, multiply the area of one face of the larger cube by 6: $18 \cdot 6 = 108$ sq ft. **Answer choice (D) is the correct answer.**
9. To find the product of x and y ($x \cdot y$), we first need to find the values of x and y . Since 6 times x equals -30, x equals -30 divided by 6 which equals -5. Since 4 plus y equals 10, y equals 10 minus 4 which equals 6. The value of $x \cdot y$ equals $-5 \cdot 6$ which equals -30. **Answer choice (A) is the correct answer.**
10. If a number can be divided without a remainder by two different numbers, it can also be divided without a remainder by those numbers least common multiple. In this case the least common multiple of 4 and 6 is 12. **Answer choice (B) is the correct answer.**
11. The shaded part of the Venn diagram represents states that start with the letter “M” but DON’T have 5 letters in their name. **The only answer choice that fits that description is Montana, so answer choice (D) is the correct answer.**
12. Meghan wants to place, or divide, her 24 pints of juice into cups that can hold $\frac{3}{4}$ pints, so we need to divide 24 by $\frac{3}{4}$. **24 divided by $\frac{3}{4}$ equals 32, so answer choice (C) is the correct answer.**
13. The difference between 5.7 and 4.5 is 1.2, and there are 4 spaces in between 4.5 to 5.7. To find the distance between each space, divide 1.2 by 4 to get .3. This means that the number line counts by .3. To get from 4.5 to B, we need to go down by .3 twice, so we go down by .6. 4.5 minus .6 equals 3.9, so B is at 3.9. **Answer choice (B) is the correct answer.**

14. Answer choice (A) says that Veronica is 50 years old which is 32 years younger than Charlie. To find how old Charlie is, we would add 32 plus 50, so answer choice (A) is incorrect. **Answer choice (B) says that Veronica is 50 years old, which is 32 years older than Charlie. To find how old Charlie is, we would subtract 32 from 50, so answer choice (B) is the correct answer.** Answer choice (C) says that Charlie is 50 years old, which is 32 years younger than Veronica. To find how old Veronica is, we would add 32 plus 50, so answer choice (C) is incorrect. Answer choice (D) says that Charlie is 32 years old, which is 50 years younger than Veronica. To find how old Veronica is, we would add 50 plus 32, so answer choice (D) is incorrect.
15. The range of a set of data is the largest number minus the smallest number. The range of the five test scores we know is 88 minus 75, which equals 13. Since we know the range of all 6 scores equals 14, we know the missing score must be 1 point higher than 88 or 1 point lower than 75. **74 is 1 point lower than 75, so answer choice (B) is the correct answer.**
16. In the first figure of the pattern, there is 1 circle. The next figure has 3 circles, the next figure has 6 circles, and the next figure has 10 circles. Each figure in the pattern adds circles to the previous figure that are equal in number to which number figure it is in the pattern. For example, the second figure adds 2 circles to the previous figure, the third figure adds 3 circles to the previous figure, and the fourth figure adds 4 circles to the previous figure. To find the fifth figure, add 5 circles to the fourth figure: 10 plus 5 equals 15. To find the sixth figure, add 6 circles to the fifth figure: 15 plus 6 equals 21. **Answer choice (D) is the correct answer.**
17. Check each answer choice using the input/output pairs from the table. Answer choice (A) is incorrect because it doesn't work for rows 2, 3, and 4: $8 - 3$ does not equal 3, $17 - 3$ does not equal 6, and $32 - 3$ does not equal 11. **Answer choice (B) is the correct answer because $3(2) - 1$ equals 5, $3(3) - 1$ equals 8, $3(6) - 1$ equals 17, and $3(11) - 1$ equals 32.** Answer choice (C) is incorrect because it doesn't work for rows 2, 3, and 4: $2(3) + 1$ does not equal 8, $2(6) + 1$ does not equal 17, and $2(11) + 1$ does not equal 32. Answer choice (D) is incorrect because it doesn't work for rows 1, 3, and 4: $\frac{1}{2}(5) - 1$ does not equal 2, $\frac{1}{2}(17) - 1$ does not equal 6, and $\frac{1}{2}(32) - 1$ does not equal 11.
18. We know that $2x$ minus 4 equals 10. This means $2x$ equals 14 because 10 plus 4 equals 14. If $2x$ equals 14, then x equals 14 divided by 2 which equals 7. **Answer choice (C) is the correct answer.**
19. Start with the first part of the equation "4 less than twice a number" the "twice a number" can be written as $2 \cdot x$ or $2x$. We want "4 less" than that, so we need to subtract 4 from $2x$ which equals $2x - 4$. This is equal to "the sum of the number and 11", which can be written at $x + 11$. **Our fl equation is $2x - 4 = x + 11$, so answer choice (A) is the correct answer.**
20. PEMDAS tells us to do what is inside the parentheses first. 85 minus 25 equals 60. Now we have 90 times 100 all over 50 times 60. This is the same as 90 times 100 divided by 50 times 60. Complete the multiplication first: 90 times 100 equals 9,000 and 50 times 60 equals 3,000. Now we have 9,000 divided by 3,000 which equals 3. **Answer choice (A) is the correct answer.**

21. According to the table, plant three grew from 1 cm to 2 cm the first day, from 2 cm to 4 cm the second day, from 4 cm to 8 cm the third day, from 8 cm to 16 cm the fourth day, and from 16 cm to 32 cm the fifth day. The pattern is plant three doubles in size each day. To find the height of plant 3 on day 6, multiply 32 cm times 2 which equals 64 cm. To find the height of plant 3 on day 7, multiply 64 cm times 2 which equals 128 cm. **Answer choice (D) is the correct answer.**
22. Visually estimate how many full bars are shaded. Visually, we can tell that more than one full bar is shaded and less than two full bars are shaded. This means our answer should be in between 1 and 2. **Since answer choice (B) is $1 \frac{1}{2}$, answer choice (B) is the correct answer.**
23. Find the total number of cards by adding up 6 red cards, 4 blue cards, 8 green cards, 1 yellow card, and 5 white cards to get 24 total cards. We are looking for the color that has a 1 out of 4 or $\frac{1}{4}$ chance of being chosen. This means we are looking for the color that represents $\frac{1}{4}$ of 24. Find $\frac{1}{4}$ of 24 by multiplying $\frac{1}{4}$ by 24 to get 6. Since there are 6 red cards, there is a 1 out of 4 chance a red card is chosen. **Answer choice (D) is the correct answer.**
24. If you plot and connect the four points on a coordinate grid, you should get a four sided shape with two congruent diagonal lines coming from one point at the top (3,6) connected to two congruent diagonal lines coming from one point at the bottom (3,1). This forms a kite which is a four sided shape with 2 pairs of congruent adjacent sides. **Answer choice (A) is the correct answer.**
25. In the figure, lines x , z , and y are all lines of symmetry. A line of symmetry is a line over which a shape can be folded such that all of the lines line up perfectly. **This means reflecting the figure over any of the lines will result in the figure exactly matching the original figure, so answer choice (D) is the correct answer.**
26. The large measures 5 smaller cubes long, 5 smaller cubes wide, and 5 smaller cubes tall. Find the total number of cubes by multiplying $5 \cdot 5 \cdot 5$ which equals 125 smaller cubes. **Answer choice (B) is the correct answer.**
27. To estimate this problem, round each number. Round 58 to 60, round 453 to 500, and round 29 to 30. Now multiply 60 and 500 and you get 30,000. Finally, divide 30,000 by 30 and you get 1,000. **Since 1,000 is in between 800 and 1,200, answer choice (B) is the correct answer.**
28. The identity property of multiplication states that a number multiplied by 1 equals itself. **Answer choice (D) is the correct answer because it shows that x times 1 is equal to itself.**
29. The hexagon is made up of 6 equal sized triangles. If the area of the entire hexagon is 42 sq cm, the area of each of the triangles is 42 sq cm divided by 6 which equals 7 sq cm. Since there are 2 shaded triangles, the area of the shaded region is 7 sq cm times 2 which equals 14 sq cm. **Answer choice (A) is the correct answer.**

- 30.** The average of two numbers is the middle of those two numbers. So if the average of 40 and a number is 32, that means the middle of 40 and the other number is 32. Since 40 is 8 above 32, the other number must be 8 below 32 so that 32 is the middle number: $32 - 8 = 24$. **Answer choice (A) is the correct answer.** You could also use a number line to visually understand that 32 is in the middle of 40 and 24. You could also use the answer choices for this question: find the average of Paul’s age, 40, and each answer choice until you get one that has an average of 32.
- 31.** The large rectangle has length of 12 in and a width of 9 inches, so the area is equal to $12 \cdot 9$ which equals 108 sq in. Each white square has a side length of 2 in, so the area of each white square is $2 \cdot 2$ which equals 4 sq in. Subtract the areas of the 4 white squares from the area of the large square: $108 - 4 - 4 - 4 - 4 = 92$ sq in. **Answer choice (C) is the correct answer.**
- 32.** If we look at the circle, the portion that represents June looks to be about $\frac{1}{4}$ of the total circle. Since 120 people took the survey, we can multiply 120 times $\frac{1}{4}$ to find how many people chose June as their favorite month. **120 times $\frac{1}{4}$ equals 30, so answer choice (C) is the correct answer.**
- 33.** We are looking for which answer choice is *true*. **Answer choice (A) is the correct answer because if we add up the amount of girls who chose math or english it equals 15 plus 20 which equals 35 and if we add up the amount of boys who chose math or english it equals 10 plus 25 which equals 35.** Answer choice (B) is incorrect because if we add up all the girls surveyed it equals 15 plus 20 plus 15 which equals 50 and if we add up all the boys surveyed it equals 10 plus 25 plus 30 which equals 55. Answer choice (C) is incorrect because 30 boys chose art and 15 girls chose art, so the difference is 15. Answer choice (D) is incorrect because the sum of the number of boys who chose art and the number of girls who chose english is 30 plus 25 which equals 55.
- 34.** The probability of choosing a red marble is 7 out of ten or $\frac{7}{10}$. Check each answer choice until you find one that has the probability of choosing a red marble as $\frac{7}{10}$. For answer choice (A), there are 7 red marbles and 10 other marbles. This means there are 17 total marbles, so the probability of choosing a red marble is $\frac{7}{17}$. Answer choice (A) is incorrect. For answer choice (B), there are 14 red marbles and 20 other marbles. This means there are 34 total marbles, so the probability of choosing a red marble is $\frac{14}{34}$ which simplifies to $\frac{7}{17}$. Answer choice (B) is incorrect. For answer choice (C), there are 16 red marbles and 6 other marbles. This means there are 22 total marbles, so the probability of choosing a red marble is $\frac{16}{22}$ which simplifies to $\frac{8}{11}$. Answer choice (C) is incorrect. For answer choice (D), there are 21 red marbles and 9 other marbles. This means there are 30 total marbles, so the probability of choosing a red marble is $\frac{21}{30}$ which simplifies to $\frac{7}{10}$. **Answer choice (D) is the correct answer.**
- 35.** Find the total number of pints by adding up 16 pints of yellow paint, 8 pints of green paint, 5 pints of white paint, and 3 pints of blue paint to get 32 total pints. Jim wants to “split” or divide his paint into 5 equal cans, so we have to divide 32 pints by 5. 32 divided by 5 equals $6\frac{2}{5}$ but the question says approximately how many pints. **Answer choice (C) is $6\frac{1}{2}$ which is approximately equal to $6\frac{2}{5}$, so answer choice (C) is the correct answer.**

36. Answer choice (C) is the correct answer. See picture below:



37. First we need to find out how long Michael volunteered at the food pantry on Sunday. Subtract how long Michael volunteered at the food pantry on Monday, Tuesday, and Wednesday from the total number of hours he volunteered at the food pantry: $15 - 2 - 3 - 4 = 6$ hours. The problem says that on Sunday, Michael spent three times as long volunteering at the food pantry than he did at the animal hospital. To find how long he volunteered at the animal hospital, divide his hours on Sunday at the food pantry by 3: $6 \div 3 = 2$ hours. **Answer choice (B) is the correct answer.**
38. If one straight line cut is made that is parallel to the base of the triangle, the two resulting shapes are a triangle (above the line) and a trapezoid (below the line). There is no way to make one straight line cut and create a rectangle. **Answer choice (C) is the correct answer.**
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Reading Comprehension

Passage 1

- The main focus of the passage is to educate the reader on the history and creation of the game of baseball. Lines 6-10 tell us that baseball didn't have a single "creator" but rather grew and changed into the game we know now over time, so answer choice (A) is incorrect. While the passage mentions the American League and the National League, it doesn't state one as being more important or even mention their importance at all, so answer choice (B) is incorrect. While the passage does give us some insights into why baseball is so popular, it doesn't outright tell the reader and is not focused on this, so answer choice (D) is incorrect. **Answer choice (C) is the correct answer because the passage does provide a history of the game of baseball from its beginnings to modern times.**

2. **Answer choice (A) is the correct answer because transformed means changed over some period of time, so the sentence would be implying that the rules and ideas of baseball have changed over time which makes the most sense given the context.** Answer choice (B) is incorrect because improved means to have gotten better over time and while it's possible the rules and ideas of baseball have improved over time, the sentence is not talking about baseball getting better. Answer choice (C) is incorrect because disappeared means stopped existing, and we know baseball is still around today, so at least some of the rules and ideas must still be around as well. Answer choice (D) is incorrect because continued means kept existing and while some of the rules and ideas of baseball have definitely continued, we know many of them have changed.
3. While the passage does talk about some of the first major league teams, it does not mention what year they were formed or which team was formed first, so answer choices (A) and (D) are incorrect. The passage also mentions the game of cricket but does not say who invented it, so answer choice (B) is incorrect. **Lines 34-36 state “The first World Series was played in 1903 and was won by the Boston Americans, a now-non-existent team.”, so answer choice (C) is the correct answer.**
4. The first paragraph in the passage discusses the origins of baseball and some different theories on how it may have come about. Lines 6-10 state “The simple truth is that the ‘founder’ of baseball isn’t one single person, but rather a collection of rules and ideas that have morphed over time.” **This sentence implies that the origins of baseball involve many people and are more complex than just one person creating the game, so answer choice (B) is the correct answer.**
5. When a word or group of words is in quotation marks, this usually implies that the author is using the word/words in an unusual and oftentimes not literal way. In the passage the word “founder” is in quotes to signify the author doesn’t believe that there is any single person who created or founded the game of baseball. The surrounding sentences are all talking about different theories on how baseball was founded and who might have founded it, but the author finally says that the “founder” of baseball isn’t one single person. **This is done to emphasize the fact that no one really knows who started the game of baseball, so answer choice (B) is the correct answer.**

Passage 2

6. The primary purpose of this passage is to tell a story about a woman who finds an injured hawk while she is out hiking and what she does to try and save it. While we do learn from the passage that the hawk’s life was saved, the passage isn't focused on the process by which this is done, so answer choice (A) is incorrect. Similarly the passage doesn’t offer a step by step guide on how to rehabilitate a hawk, so answer choice (C) is incorrect. While the passage does illustrate the work done to save the hawk by a local raptor center, this is not the primary focus of the passage, so answer choice (D) is incorrect. **The passage is mainly focused on a hiker and how she found and tried to save an injured hawk she encountered on one of her hikes, so answer choice (B) is the correct answer.**

7. Nowhere in the passage does it mention the hawk's size, so answer choice (A) is incorrect. The passage also never mentions that hawks are birds of northern flight, so answer choice (B) is incorrect. The passage never mentions anything about the extinction or endangered status of hawks, so answer choice (D) is incorrect. In the passage a hiker finds an injured hawk while she is out hiking. Not knowing what to do she calls the local humane society to see if they can help. Lines 20-23 tell us that the veterinarian at the humane society recommended that the hiker call the local raptor center to see if they can help. **It wouldn't make sense for the vet to recommend the hiker call a local raptor center unless red tailed hawks are a type of raptor, so answer choice (C) is the correct answer.**
8. Lines 40-42 state "I had called a few times to no avail. They always told me that he was recovering, but they weren't quite sure yet." These sentences are referring to the hiker calling the raptor center to check in on if the hawk was healed. The fact that the raptor center told her that the hawk was recovering but they weren't sure if he would make a full recovery yet tells us that when the hiker called, she was not given the news that she wanted to hear, which was that the hawk was healed. So the reason she called was to find out if the hawk was healed and she was unsuccessful in finding that out when she called, so to no avail most nearly means without success. **Answer choice (D) is the correct answer.**
9. From the beginning of the passage we can tell that the hiker cared about the wellbeing of the hawk. If she did not she would not have called the Humane Society and the raptor center to try and get help. This is further illustrated in the fact that she drove with the volunteers back to the raptor center to make sure the hawk arrived safely. The hiker continued to call to check in on the hawk's recovery as she waited to hear news. All of these actions support the idea that she cared about the injured hawk. Think about how you would feel if someone or something you cared about was injured and you were waiting on news of how they were doing. It wouldn't make sense for the hiker to be indifferent because that would mean she didn't care one way or another, so answer choice (A) is incorrect. Given the circumstances and the fact that the raptor center said the bird was recovering, terrified is too extreme of an emotion, so answer choice (B) is incorrect. The fact that the recovery took a long time and that the raptor center told the hiker that the bird might not recover means she probably wasn't feeling optimistic, so answer choice (C) is incorrect. **The hiker is most likely worried and concerned that the hawk might not make it, so answer choice (D) is the correct answer.**
10. The final paragraph of the passage details how the hiker was concerned about the hawk's recovery and kept calling to find out more information. She eventually stopped calling after a few weeks, feeling like the hawk might not make a recovery and would have to be euthanized. **When she got the phone call that the hawk was being released she was surprised because she was no longer expecting the hawk to fully recover and be put back into the wild, so answer choice (A) is the correct answer.**

Passage 3

11. The main purpose of the passage is to educate the reader about the unique street artist known as Banksy. The passage does not just propose one theory on who Banksy might be but rather gives a couple different theories on his identity, so answer choice (A) is incorrect. While the passage does discuss Banksy’s famous serious *Girl With a Balloon*, it is not the main focus of the passage, so answer choice (C) is incorrect. While the passage does discuss street art in England, it does not do this in a general way but in a specific way referring to Banksy, so answer choice (D) is incorrect. **The primary focus of the passage is the artwork of the street artist known as Banksy, so answer choice (B) is the correct choice.**
12. Answer choice (A) is incorrect because erased means removed or deleted and it doesn’t make sense to say mural removed a you girl firing a slingshot. Answer choice (B) is incorrect because mocked means teased or made fun of and nothing in the context of the surrounding sentences implies that the mural was making fun of anything. **Answer choice (C) is the correct answer because showed means displayed or pictured, and the word “depicted” refers to what the mural showed.** Answer choice (D) is incorrect because fabricated means created or made and a mural could not actually create a young girl.
13. Lines 19-21 state “Banksy’s messages often center around topics such as anti-war, anti-violence, and anti-capitalism.” In reference to one of Banksy’s most famous series *Girl With a Balloon*, lines 38-41 state “These works have continued to appear in response to various world events like the Syrian refugee crisis and various UK elections.” **Based on these two lines, we can assume that the purpose of Banksy’s art is to raise awareness about important issues like the Syrian refugee crisis or anti-capitalism, so answer choice (C) is the correct answer.**
14. The third paragraph in the passage talks about Banksy switching to use stencils. Referring to this, lines 28-32 state “He credits this change to the fact that stenciling is much faster than free-hand drawing, which is vital when illegally drawing art throughout the city.” So we can infer that Banksy was concerned with getting caught for illegally drawing art in the city and the stencils helped him move faster so this would not happen. **Answer choice (A) is the correct answer.**
15. The last paragraph never says that the two identities it discusses as possibly being Banksy are his only possible identities, so answer choice (A) is incorrect. The last paragraph starts out by saying it is unknown if Banksy’s real identity will ever be revealed, so answer choice (B) is incorrect. The last paragraph doesn’t actually say whether or not the author knows Banksy’s identity, only that the author doesn’t know if it will ever be revealed, so answer choice (C) is incorrect. **The main function of the last paragraph is to show that many people have different opinions about Banksy’s identity, so answer choice (D) is the correct answer.**

Passage 4

16. The main purpose of the passage is to tell a story about a highschool junior who ran and lost an election for student council. The passage doesn't state whether school elections are fair or unfair, so answer choice (A) is incorrect. The passage does not go over any benefits of student government, so answer choice (B) is incorrect. While the passage does describe what the main character, Jules, does to get ready for student council elections, it's all surrounding Jules's personal story and not the process in general, so answer choice (D) is incorrect. **The primary purpose of the passage is to tell a story about Jules, a highschool junior, losing her student council election, so answer choice (C) is the correct answer.**
17. The second and third paragraphs in the passage talk about when and why Jules first came up with the idea to run for student council. The second paragraph says that Jules first came up with the idea her sophomore year. She was frustrated at the fact that it seemed like the current student council hadn't planned at all for the homecoming dance because there was no food or decorations. The first line in the third paragraph states "Now, as a junior, Jules felt that she could change all that.", referring to the failed dance during her sophomore year. **It is clear that the reason Jules decided to run for student council is because of the poorly planned homecoming dance, so answer choice (B) is the correct answer.**
18. Lines 40-42 state "Many of her classmates turned their gazes, waiting to see how she would react." If we break down the phrase we can see the word turn and gaze. Turn means to move in a different direction and gaze has to do with your eyes, so we can infer that if the other students moved their eyes in a different direction, this means they looked at Jules. **Answer choice (A) is the correct answer.**
19. The last paragraph is focused on what happened right after Jules finds out she lost the election. It states that she slumped in her chair and felt like all the work was for nothing. The last paragraph also says that Stella, one of the two winners, happened to be in Jules's class at the time of the announcement. After going over and saying she was sorry to Jules, she says "We have a spot for a non-student council member on the spring dance committee if you're interested?" The passage doesn't imply that this offer was made out of pity or tell us whether or not Jules accepted the offer, so answer choices (A) and (B) are incorrect. It also never tells us what place Jules came in in the election, so answer choice (C) is incorrect. **The only thing we can infer from the paragraph is that Jules will still be able to help with the school dance if she accepts the offer, so answer choice (D) is the correct answer.**
20. Lines 43-45 state "And for your junior class, we are pleased to welcome Mark Watters and Stella Manning!" **From this we know how many students were elected to the junior student council, so answer choice (A) is the correct answer.**

Passage 5

21. The main focus of the passage is educating the reader about the life of President William Henry Harrison. The passage author does not mention whether he/she believes Harrison would have done a good job if he had served longer, so answer choice (A) is incorrect. While the passage does discuss what doctors believe might have caused President Harrison's death, it is not certain and this is not the main point of the passage, so answer choice (B) is incorrect. The passage states that President Harrison might have died of typhoid fever not pneumonia, but it doesn't really focus on this, so answer choice (C) is incorrect. **The primary purpose of the passage is to discuss the life and career of President Harrison, so answer choice (D) is the correct answer.**
22. Lines 8-9 state "The doctors of the day incorrectly thought the cold and wet weather had caused his illness." **We can infer from this sentence that the cold and wet weather did not cause Harrison's illness, so answer choice (C) is the correct answer.**
23. Answer choice (A) is incorrect because improved means got better or made better so if that were true and the doctor's treatments made Harrison's condition better, he would not have died. Answer choice (B) is incorrect because sparked means started or caused and since we know that Harrison already had his illness before he went to the doctor, we know they didn't cause it. Answer choice (C) is incorrect because confused means perplexed or made something unclear and it wouldn't make sense for treatments to perplex a disease. **Answer choice (D) is the correct answer because we know that Harrison died soon after the doctor's treatments, so we can infer that the treatments made his condition worse.**
24. We are looking for the answer choice that is NOT true. Answer choice (A) is incorrect because lines 19-22 state "He died nine days later, making his 31 days in office the shortest amount of time served by any US president." **Answer choice (B) is the correct answer because although the passage says Harrison's grandson served as president, it never mentions his son.** Answer choice (C) is incorrect because lines 46-48 state "It was this combination of military and government experience that helped Harrison become president." Answer choice (D) is incorrect because lines 34-36 state "Shortly after, he was appointed as the Governor of the Indiana Territory by President John Adams."
25. **Answer choice (A) is the correct answer choice.** This question is a bit tricky but the passage is mostly organized by time. The passage does start out in 1841 when Harrison gave his inauguration speech, but it does this only to explain how he died and to point out that he served the shortest amount of time of any US president. From that point on the passage follows a chronological order, starting with the beginning of his military career in 1791 to Harrison being appointed governor in 1798. The passage eventually goes on to talk about Harrison's grandson serving as president, which has to take place later than all the other events in the passage. So besides the first paragraph, the rest of the passage goes in chronological order.
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Mathematics Achievement

1. A polygon with eight sides is called an octagon. **Answer choice (D) is the correct answer.**
2. The difference between 16 and 10 is 6, and there are 3 spaces in between 10 to 16. To find the distance between each space, divide 6 by 3 to get 2. This means that the number line counts by 2. To get from 16 to X, we need to go up by 2 twice, so we go up by 4. 16 plus 4 equals 20, so X is at 20. **Answer choice (B) is the correct answer.**
3. The formula for the area of a triangle is $A = \frac{1}{2}bh$. To find the area plug in 24 ft for b and 10 ft for h to get $A = \frac{1}{2}(24)(10)$. 24 times 10 equals 240 so we are left with $A = \frac{1}{2}(240)$ which simplifies to $A = 120$ sq ft. **Answer choice (A) is the correct answer.**
4. Michelle is 18 years old and Sophie is 7 years younger than Michelle. Find Sophie's age by subtracting 7 from 18 which equals 11. Now to find their combined age, add 11 plus 18 which equals 29 years. **Answer choice (C) is the correct answer.**
5. **The correct answer is (C).** When subtracting large numbers, stack the numbers on top of each other and line up the digits. To see a step by step solution of this problem, follow this link and type in the problem: [how to subtract large numbers](#)
6. Probability can be expressed as a fraction where the numerator is what we “want” and the denominator is the “total.” Counting all the figures we see there are 12 in total. Since there are 3 circle figures, the probability of choosing a circle figure is 3 out of 12 or $\frac{3}{12}$. Divide each part by 3 to simplify the probability to $\frac{1}{4}$ or 1 out of 4. **Answer choice (B) is the correct answer.**
7. We know that 50 minus the sum of the square and 3 equals 40. First add the sum of the square and 3 to both sides, then subtract 40 from both sides. This means that the sum of the square and 3 equals 10 because 50 minus 40 equals 10. Now we have square plus 3 equals 10, which means square equals 10 minus 3 which equals 7. **Answer choice (A) is the correct answer.** You can also solve the problem by plugging in each answer choice for the square and seeing which number makes the equation equal on both sides.
8. Coordinate points are written in the form (x, y) , so the x coordinate comes first. This means point A is $(-2, 1)$. If it is moved 3 units right, we add 3 to the x coordinate: $-2 + 3 = 1$. If it is moved 4 units down, we subtract 4 from the y coordinate: $1 - 4 = -3$. **The new coordinates are (1, -3), so answer choice (A) is the correct answer.**
9. Go through each answer choice and find one that is equal to 15. For choice (A), we start with 3 times 5 because it's inside the parentheses and its multiplication. 3 times 5 equals 15. Now subtract 10 from 15 to get 5. Finally 3 plus 5 equals 8, so answer choice (A) is incorrect. For answer choice (B), we start with 3 plus 2 because it's inside the parentheses and we get 5. Next multiply 5 times 5 to get 25. **Finally, 25 minus 10 equals 15, so answer choice (B) is the correct answer.** For answer choice

(C), start with multiplication: 2 times 5 equals 10. Next, add 1 plus 10 to get 13. Finally, 13 minus 10 equals 3, so answer choice (C) is incorrect. For answer choice (D), we start with 5 minus 10 because it's inside the parentheses and we get -5. Next we multiply 2 times - 5 and we get -10. Finally, 3 plus - 10 equals -7, so answer choice (D) is incorrect.

- 10.** To change a fraction into a decimal, divide the numerator by the denominator. **3 divided by 5 equals 0.6, so answer choice (C) is the correct answer.**
- 11.** **The set of numbers consists of all prime numbers (numbers that are only divisible by one and themselves), so answer choice (D) is the correct answer.** The numbers are not all odd numbers because 2 is divisible by 2, so answer choice (A) is incorrect. Since the numbers are prime numbers they cannot be composite numbers, so answer choice (B) is incorrect. The numbers are not irrational because irrational numbers cannot be written as fractions, and all integers can be written as fractions, so answer choice (C) is incorrect.
- 12.** **The correct answer is (C).** When multiplying two numbers, stack the numbers on top of each other and line up the digits. To see a step by step solution of this problem, follow this link and type in the problem: [how to multiply large numbers](#)
- 13.** First, find the total amount of money Veronica spent by adding \$2.49 for juice plus \$0.75 for chips plus \$1.49 for gum and \$1.25 for a candy bar which equals \$5.98. To find how much change she got back, subtract the total cost of everything she bought from the amount of money she handed the cashier: \$10 minus \$5.98 equals \$4.02. **The question says approximately how much money did she get back and \$.02 is approximately \$4, answer choice (B) is the correct answer.**
- 14.** There are 16 apples and 12 pears, so the ratio of apples to pears is 16:12. To simplify the ratio, divide each part by four to get 4:3. **Answer choice (C) is the correct answer.**
- 15.** When subtracting decimals, line up the decimal point and subtract down like you would with whole numbers. Remember 9 can be written as 9.00. **If you do this, you'll get answer choice (A) as the correct answer.** To see a step by step solution of this problem, follow this link and type in the problem: [how to solve operations with decimals](#)
- 16.** On the chart, each sun represents 5 sunny days. For the month of June there are 5 suns, so multiply 5 times 5 to get 25 sunny days in June. For the month of August there are 3 suns, so multiply 3 times 5 to get 15 sunny days in August. Now add 25 sunny days in June plus 15 sunny days in August to get 40 sunny days in June and August. **Answer choice (C) is the correct answer.**
- 17.** The problem says the population of Austin is about one fourth the population of one of the answer choices, so the answer we are looking for is about 4 times the population of Austin. To estimate 4 times 964,254, we want to round 964,254 to 1,000,000 because it is easy to multiply 1,000,000 by 4. 4 times 1,000,000 equals 4,000,000. **We want to choose the answer choice that is closest to 4,000,000 people, so answer choice (D) is the correct answer.**

18. Since we are measuring length, we can cross out answer choice (C) and (D) because milliliters and ounces measure volume. Since a toothbrush is pretty small and isn't even one meter long, it wouldn't make sense to measure it in kilometers, so we can cross out answer choice (A). **Inches are small and measure length, so answer choice (B) is the correct answer.**
19. To find the range, subtract the smallest number from the largest number: $98 - 67 = 31$. **Answer choice (C) is the correct answer.**
20. **The correct answer is (A).** The hundredths place is the second place to the right of the decimal, in this case the number 3.
21. When approaching this problem, first determine which fractions are less than a half, which fractions are greater than a half, and which fractions equal a half. Answer choices (A) and (D) are both less than half, and answer choices (B) and (C) are greater than half. Since we are looking for the *smallest* fraction, we can cross out answer choices (B) and (C). When comparing $\frac{4}{9}$ and $\frac{3}{7}$, find the least common multiple of the denominators. The LCM of 7 and 9 is 63. Change $\frac{4}{9}$ into $\frac{28}{63}$ by multiplying the numerator and denominator by 7. Change $\frac{3}{7}$ into $\frac{27}{63}$ by multiplying the numerator and denominator by 9. **$\frac{27}{63}$ is smaller than $\frac{28}{63}$, so answer choice (D) is the correct answer.**
22. To find how many total miles Carly ran over three days, simply add up the number of miles she ran each day. 3.8 miles on Monday plus 2.6 miles on Tuesday plus 1.75 miles on Wednesday equals 8.15 miles total. **Answer choice (D) is the correct answer.**
23. There are 3 feet in 1 yard. To find the number of feet in 3 yards, multiply 3 times 3 which equals 9. There are 12 inches in 1 foot. To find the number of inches in 9 feet, multiply 12 times 9 which equals 108. **Answer choice (D) is the correct answer.**
24. We want "three less than four times a number", so start by writing an expression for "four times a number." "Four times a number" can be written as $4 \cdot x$ or $4x$. We want "three less" than that, so we need to subtract three from $4x$ which equals $4x - 3$. **Answer choice (B) is the correct answer.**
25. From 3 to 6, you add 3. From 6 to 11, you add 5. From 11 to 18, you add 7. From 18 to 27, you add 9. The pattern is adding 2 more than you added to the previous number. Since we added 9 from 18 to 27, we need to add 11 to 27 to find the next number. **11 plus 27 equals 38, so answer choice (C) is the correct answer.**
26. We want to find how much longer the length of the rectangle is than the width of the rectangle, so we want to find the *difference* between the two numbers. If you subtract $2\frac{2}{3}$ from $4\frac{1}{6}$, you get $1\frac{3}{6}$ meters which simplifies to $1\frac{1}{2}$ meters. **Answer choice (A) is the correct answer.**

27. Similar shapes are the exact same shapes but different sizes. **The two figures in answer choice (A) are the exact same shape, just different sizes, so answer choice (A) is the correct answer.**
28. As the inputs go up by 2, the outputs go up by 1. Therefore, an input of 21 gives an output of 11 and an input of 23 gives an output of 12. **Answer choice (B) is the correct answer.**
29. To find the area of a square, multiply the side lengths together. A square has all equal sides, and the perimeter is found by adding up all four sides. To find the side length of a square with a perimeter of 12 units, divide 12 units by four which equals 3 units. Now multiply 3 times 3 to get 9 units squared. **Answer choice (C) is the correct answer.**
30. From age 10 to 12 Anthony’s weight went from 105 to 120 which is a difference of 15 pounds. From age 12 to 14 Anthony’s weight went from 120 to 135 which is a difference of 15 pounds. From age 14 to 16 Anthony’s weight went from 135 to 150 which is a difference of 15 pounds. According to the graph, every two years Anthony’s weight goes up by 15 pounds. Anthony’s weight at age 20 will be 15 pounds more than 165 (his weight at age 18) which equals 180, his weight at age 22 will be 15 pounds more than 180 which equals 195, and his weight at age 24 will be 15 pounds more than 195 which equals 210. **Answer choice (B) is the correct answer.**

Practice Test 2 Answer Explanations

Verbal Reasoning

Synonyms

1. **Irrelevant** means not related to something. For example, the color of your car is **irrelevant** to how fast it can drive. This is closest in meaning to answer choice **(D) unrelated**.
2. **Astonishing** means extremely surprising or impressive. For example, it was **astonishing** to watch LeBron James win his 4th championship with his 3rd team. This is closest in meaning to answer choice **(B) surprising**.
3. **Cautious** means careful to avoid problems or danger. For example, when it is snowing you have to be **cautious** while driving or you might crash. This is closest in meaning to answer choice **(C) careful**.
4. **Collaborate** means to work together on an activity. For example, on a group project, group members have to **collaborate** in order to finish on time. This is closest in meaning to answer choice **(A) cooperate**.

5. **Ally** means a person or group that cooperates and/or helps another. For example, during a war, one country might become an **ally** with another in order to defeat the enemy. This is closest in meaning to answer choice (C) **friend**.
6. **Gratitude** means appreciation for something. For example, if someone gives you a gift you might send them a thank you card to show your **gratitude**. This is closest in meaning to answer choice (D) **appreciation**.
7. **Restore** means bring something back or return something to its previous state. For example, instead of throwing away an old piece of furniture, you could **restore** it so it can be used again. This is closest in meaning to answer choice (C) **repair**.
8. **Attentive** means paying close attention to something. For example, if you want to get good grades in school you should be **attentive** in your classes. This is closest in meaning to answer choice (A) **observant**.
9. **Emulate** means to reproduce or copy. For example, if you like a celebrity's hairstyle, you might try to **emulate** it with your own hair. This is closest in meaning to answer choice (B) **imitate**.
10. **Inventive** means having the ability to create or design new things and think originally. For example, Benjamin Franklin was a very **inventive** historical figure. This is closest in meaning to answer choice (C) **creative**.
11. **Endure** means to accept or persevere through something. For example, many parents have to **endure** noisy children. This is closest in meaning to answer choice (B) **tolerate**.
12. **Timid** means showing a lack of confidence. For example, someone who is **timid** will probably be nervous about meeting new people. This is closest in meaning to answer choice (D) **shy**.
13. **Provoke** means to deliberately bother or anger someone. For example, your little brother might try to **provoke** you to yell at him so you get in trouble. This is closest in meaning to answer choice (B) **annoy**.
14. **Tranquil** means calm or peaceful. For example, many people like hiking in the woods because they find the silence **tranquil**. This is closest in meaning to answer choice (A) **peaceful**.
15. **Meager** means deficient. For example, if you have a **meager** diet, you are probably missing many key vitamins. This is closest in meaning to answer choice (A) **limited**.
16. **Contract** means a written or spoken agreement. For example, if you accept a new job you may have to sign a **contract** that details the terms of your employment. This is closest in meaning to answer choice (C) **agreement**.

17. **Stingy** means unwilling to spend or give money. For example, a stingy person wouldn't buy expensive jewelry. This is closest in meaning to answer choice **(D) greedy**.

Sentence Completion

18. **The correct answer is choice (D) temporary, which means lasting for only a limited time.** This is an example of a contrast and a continuation or restatement question. The clues in this question are the words “although” and “and” at the start of and in the middle of the sentence respectively. The first part of the sentence tells us that Cassandra was not excited about her braces. The second part of the sentence tells us that although this was the case, she took comfort in the fact that they were blank and would be off by the time she graduated. Cassandra was upset about her braces, but because they were something that would only last a short time (until she graduated) or **temporary**, she was able to take some comfort knowing that.
19. **The correct answer is choice (B) portable, which means having the ability to be moved easily.** This is an example of a continuation or restatement question. The clue in this sentence is the word “and” in the middle of the sentence. The sentence is talking about the benefits of a laptop computer over a desktop. The second part of the sentence says that a laptop can be taken with you anywhere, this is a restatement of the definition of **portable**.
20. **The correct answer is choice (D) consistent, which means standard or in agreement with something.** This is an example of a contrast question. The clue in this question is the word “although” at the beginning of the sentence. The second part of the sentence tells us that a doctor determined Nadia's symptoms to actually be caused by extreme anxiety. The blank in this sentence is referring to her symptoms in relation to the flu. If the doctor determined that her symptoms were caused by anxiety, that would be in contrast to the fact that her symptoms were commonly associated or **consistent** with the flu.
21. **The correct answer is choice (A) phobia, which means an extreme fear of something.** This is an example of a cause and effect question. The effect in this question is Jake not being able to fall asleep unless all the lights in his room are on. If we think about why someone would need all the lights in the room left on to fall asleep, it makes sense that having an extreme fear or **phobia** of the dark would be the cause.
22. **The correct answer is choice (C) resembled, which means looked like.** This is an example of a cause and effect question. The effect in this question is people mistaking Chris and his uncle for father and son. If we think about why people would think Chris and his uncle were father and son, it makes sense that Chris probably really looked like or **resembled** him.
23. **The correct answer is choice (C) diverse, which means varied or different.** This is an example of a continuation or restatement question. The second part of the sentence tells us that Marty's school allowed him to meet people with different backgrounds, cultures, and life experiences. If your

school's population was made up of all these different kinds of people it would probably be described as a varied or **diverse** demographic.

- 24. The correct answer is choice (D) perfect, which means having all the wanted or needed characteristics.** This is an example of a contrast question. The clue in this question is the word “though” at the start of the sentence. The second part of the sentence states that the solution to the problem was expensive and would take too long to implement. Something that is expensive and takes a long time to implement is not practical, so answer choice (A) is incorrect. While that type of solution does sound unrealistic, because this is a contrast question it wouldn’t make sense in the context, so answer choice (B) is incorrect. Similarly it wouldn't make sense to say costly in this context so answer choice (C) is incorrect. The solution to the company’s dilemma being **perfect** is in direct contrast with the fact that it is too expensive and takes too long to implement.
- 25. The correct answer is choice (D) exaggerated, which means overstated or magnified.** This is an example of a cause and effect question. The clue in this question is the word “so” in the middle of the sentence. The effect in this sentence is Tom not having to go to school. If we look at the first part of the sentence we see that Tom only has a minor headache and most likely this would not be enough to get his parents to let him stay home. In order for Tom to cause his parents to allow him to stay home, he overstated or **exaggerated** his symptoms so they seemed worse than they really were.
- 26. The correct answer is choice (A) continuous, which means without interruption.** This is an example of a contrast question. The clue in this question is the word “though” at the beginning of the sentence. The second part of the sentence says the sky remained sunny all week. Normally we would assume that the forecast would have been for minimal rain or sunny skies, but because this is a contrast question we know that what we normally assume is not correct. The weather being forecasted as **continuous** rain is in direct contrast with the fact that it was actually sunny all week.
- 27. The correct answer is choice (C) irritated, which means annoyed.** This is an example of a cause and effect question. The cause in this question is the student continuing to tap his pen against his desk, despite being asked to stop many times. Tapping a pen against a desk could already be considered an annoying sound on its own, but doing it after you have already been asked to stop would make it even more so. It makes sense that this would cause the teacher to be very bothered or **irritated**.
- 28. The correct answer is choice (B) threatened, which means put at risk or endangered.** This is an example of a contrast and a continuation or restatement question. The clue in this question is the word “although” at the start of the sentence. The sentence starts off by stating that the population of wild tigers was once widespread. The second part of the sentence tells us that poachers profit from hunting and selling tiger pelts. If we think about the fact that this is a contrast question and the fact that poachers are killing tigers, we can infer that their population is no longer widespread but **threatened** due to hunting.

- 29. The correct answer is choice (D) purchase a ticket to visit her family.** This is an example of a contrast question. The clue in this question is the word “although” at the beginning of the sentence. The first part of the sentence says that the price of a plane ticket had gone up by \$300. Normally we would assume this would discourage someone from buying a ticket because it was now too expensive. Because this is a contrast question we have to find the answer that would be in contrast to what we would normally think. Anna buying the play ticket anyway is in contrast to what we would assume would happen.
- 30. The correct answer is choice (C) goes to church at least twice a week.** This is an example of a cause and effect question. The clue in this question is the word “since” at the start of the question. The cause in this question is the fact that Chris is extremely dedicated to his Christian religion. While Chris might have a lot of Jewish friends, it wouldn’t make sense for this to be caused by his dedication to his Christian religion, so answer choice (A) is incorrect. It also would not make sense for his dedication to cause him to forget to pray before bed, so answer choice (B) is incorrect. Answer choice (D) is possible but it doesn’t necessarily illustrate Chris’s dedication to his religion. Going to church twice a week is the effect because it clearly shows how dedicated Chris is to his Christian religion.
- 31. The correct answer is choice (B) lived most of his life in poverty.** This is an example of a contrast question. The clue in this question is the word “but” in the middle of the sentence. The first part of the sentence tells us that Van Gogh and Picasso were both very talented artists. The sentence goes on to say that while Picasso earned millions of dollars in his lifetime, Van Gogh blank. Normally we would think that because they were both talented artists and one of them earned a lot of money, the other one would similarly earn a lot of money. This is a contrast question though, so we know we have to look for the answer choice that would contrast with the idea of Picasso Earning millions of dollars. The opposite of earning millions of dollars is living most of your life in poverty.
- 32. The correct answer is choice (D) just started playing soccer this year.** This is an example of a contrast question. The clue in this question is the word “but” in the middle of the sentence. The sentence starts off by saying most of the players on Zoe’s soccer team started playing at an early age. We know the answer choice is going to contrast this idea. If we think about it, the opposite of starting to play soccer at a young age would be starting to play at an old age. The closest choice to starting at an old age is Zoe starting to play this year.
- 33. The correct answer is choice (A) her desk got wet during the storm.** This is an example of a cause and effect question. The clue in this question is the word “because” at the start of the sentence. The cause in this question is Allison forgetting to close her bedroom window. We know that when a window is open, whatever the weather is outside can come inside. That could be a nice breeze or some sunshine or rain. In this case it was raining and Allison’s window being opened caused her desk to get wet.
- 34. The correct answer is choice (A) didn’t spend any time studying.** This is an example of a cause and effect question. The cause in this question is Tonya thinking her physics exam would be easy. If

we think about it, if someone thinks a test will be easy what would this most likely cause them to do? Most likely this would cause them to not study as hard or at all for the test.

Quantitative Reasoning

1. We can see that the large rectangle is divided up into 16 equal sized triangles, so each triangle is $\frac{1}{16}$ of the figure. Since there are 6 triangles shaded, the fraction of the figure that is shaded is $\frac{6}{16}$ which simplifies to $\frac{3}{8}$. **Answer choice (A) is the correct answer.**
2. For this question it might help if you come up with some numbers for how many jellybeans Ruth might have and how many she wants to put into each bag. For example, if Ruth has 10 jelly beans and she wants to put 2 jelly beans in each bag, she would need 5 bags. To figure this out we divided the total number of jelly beans (10) by how many jelly beans she wanted in each bag (2). **To find out how many bags Ruth will need we have to take the total number of jelly beans divided by the number of jelly beans in each gift bag, so answer choice (A) is the correct answer.**
3. An *isosceles* triangle is a triangle with exactly two equal sides. So we know that the side lengths of the triangle described are either 6 cm, 6 cm, and 10 cm or 10 cm, 10 cm, and 6 cm. Find the perimeter of both by adding up the side lengths and see which one is an answer choice. Triangle 1 is 6 cm plus 6 cm plus 10 cm which equals 22 cm. Triangle 2 is 10 cm plus 10 cm plus 6 cm which equals 26 cm. **Triangle 1 has the same perimeter as answer choice (A) so answer choice (A) is the correct answer.**
4. To find the sum of a and b , we first need to find the values of a and b . Since a divided by 4 equals 8, a equals 8 times 4 which equals 32. Since 5 plus b equals 12, b equals 12 minus 5 which equals 7. The value of $a + b$ equals 32 plus 7 which equals 39. **Answer choice (B) is the correct answer.**
5. Let the price of the plate be p . If the mug costs the same as three plates then the mug costs $3p$. If the bowl costs the same as 2 plates then the bowl costs $2p$. Since the total combined cost of the mug, the plate, and the bowl cost \$24, $3p + p + 2p = \$24$ which simplifies to $6p = 24$. Dividing each side by six gives us p equals 4. We are looking for the cost of the bowl which equals $2p$. Since p equals \$4, and the bowl costs twice as much as the plate, then the bowl costs \$8. **Answer choice (C) is the correct answer.** You can also use the answer choices: set each answer choice equal to the price of the bowl and use the price of the bowl to find the price of the plate and mug. Then check to see if the total price adds up to \$ 24. Keep checking each answer choice until you find one where the total price of the mug, bowl, and plate equals \$24.
6. First, find how many pounds 1 box can hold by dividing 50 pounds by 4 boxes to get 12.5 pounds per box. Next, find how many pounds 10 boxes can hold by multiplying 10 boxes times 12.5 pounds per box to get 125 pounds. **Answer choice (B) is the correct answer.**

7. Go through each answer choice and see if they will make the shaded triangle match the white triangle. For answer choice (A), a reflection over line m and followed by a reflection over line n will result in the shaded triangle being in the bottom right but flipped vertically compared to the white triangle, so answer choice (A) is incorrect. For answer choice (B), a translation right followed by a translation down will result in the shaded triangle being in the bottom right but flipped horizontally compared to the white triangle, so answer choice (B) is incorrect. For answer choice (C), a translation up followed by a reflection over line m will result in the shaded triangle being up higher and in the top right, so answer choice (C) is incorrect. **For choice (D), a reflection across line m followed by a translation down will result in the shaded triangle exactly on top of the white triangle, so answer choice (D) is the correct answer.**
8. First, find how many cm represent 1 km by dividing 6 by 48 to get .125. Next, find how many cm represent 12 km by multiplying .125 by 12 to get 1.5. **Answer choice (B) is the correct answer.**
9. Start with 95 plus 25 because it's inside the parentheses. $95 + 25 = 120$. Next, multiply 80 times 120 which equals 9,600. **Finally, 9,600 divided by 4 equals 2,400, so answer choice (B) is the correct answer.**
10. For this problem, all of the fractions' numerators are one less than the denominators. This means that the fraction with the largest denominator is the largest fraction. The smaller the denominator, the larger the pieces. The fraction $\frac{7}{8}$ is $\frac{1}{8}$ away from a whole, whereas the other fractions are $\frac{1}{3}$, $\frac{1}{7}$, and $\frac{1}{5}$, away from a whole. Since $\frac{1}{8}$ is less than $\frac{1}{3}$, $\frac{1}{7}$, and $\frac{1}{5}$, $\frac{1}{8}$ is closer to a whole than the other numbers, so $\frac{7}{8}$ is the largest fraction. **Answer choice (D) is the correct answer.**
11. If you divide 183 by 9, you get 20 with a remainder of 3 because 9 times 20 is 180, and there are 3 leftover when you subtract 180 from 183. **IMPORTANT:** A lot of students choose (A), but our divisor cannot be equal to or less than our remainder.
12. The shaded part of the Venn Diagram represents blue toys with wheels that are NOT made out of plastic. **A blue wooden toy truck is the only answer choice that fits that description, so answer choice (C) is the correct answer.**
13. First find the total amount of money Yael spent on plums by subtracting the total amount of money she spent on bananas, peaches, and grapefruit from the total amount of money she spent at the store: $13 - 2.25 - 2.50 - 6.00 = 2.25$. So Yael spent a total of \$2.25 on plums. Next, find how many plums Yael bought by dividing the total amount of money she spent on plums by how much one plum costs: $2.25 \div 0.75 = 3$ plums. **Answer choice (B) is the correct answer.**
14. The total amount Lillian spent is \$37, so the amount Lillian spent on cans of paint and a paintbrush equals \$37. Lillian purchased 8 cans of paint, the price he spent on the cans of paint equals 8 times the price of each can, 3, which equals $8(3)$ or $3(8)$. Lillian also spent $\$p$ on a paintbrush. The total she spent is the $\$3(8)$ she spent on cans of paint plus the $\$p$ she spent on the paintbrush, so $3(8) + p = 37$. **Answer choice (A) is the correct answer.**

15. If you plot and connect the three points on a coordinate grid, you will get an acute triangle because all of the angles formed by the lines are less than 90 degrees. **Answer choice (A) is the correct answer.**
16. The area of the white garden is $12 \cdot 10$ which equals 120 sq m. The walkway is 1 m wide all around, so the dimensions of the outer rectangle are 14 m by 12 m. The area of the outer rectangle is $14 \cdot 12$ which equals 168 sq m. Find the area of the shaded region by subtracting the area of the garden from the area of the outer rectangle: $168 - 120 = 48$ sq m. **Answer choice (B) is the correct answer.**
17. Determine how far away each answer choice is from 7 by finding the difference between the number and 7. For answer choice (A), 7.1 minus 7 equals 0.1. For answer choice (B), 7 minus 6.98 equals 0.02. For answer choice (C), 7 minus 6.9 equals 0.1. For answer choice (D), 7.10 minus 7 equals 0.01. Since 0.01 is the *smallest* number, this means answer choice (D) is closest in value to 7. **Answer choice (D) is the correct answer.**
18. Since the perimeter is 28 cm, this means the sum of all of the sides equals 28. Let l represent the length of the rectangle. We know the left and right sides are each 4 cm, so $4 + 4 + l + l = 28$. This means $8 + 2l = 28$. Subtract 8 from both sides to get that $2l = 20$. Divide both sides by 2 to get $l = 10$. **Answer choice (B) is the correct answer.**
19. Think of a probability like a ratio. Therefore, the ratio of pink to total candies is 5:9. Since there are 9 total parts in our ratio, and 5 parts are pink, the remaining 4 parts are green. Therefore, the ratio of pink to green candies is 5:4. We know there are 40 green candies, so we need to multiply the green part of our ratio by 10 to get 40. Multiply the pink part of the ratio by 10 also to get 50 pink candies. **Answer choice (C) is the correct answer. HINT:** for this problem, you do not need to do much math to find the answer. The probability of choosing pink is 5 out of 9 and the probability of choosing green is 4 out of 9. This means that there are more pink candies than green candies. Therefore, answer choices (A) and (B) are incorrect. While there are more pink than green candies, the probabilities are still relatively close ($4/9$ and $5/9$), so the number of pink candies cannot be more than double the number of green candies. Therefore, answer choice (D) is incorrect.
20. A line of symmetry is a line over which a shape can be folded such that all of the lines line up perfectly. In a regular hexagon, there are 6 lines of symmetry (one line coming out of each vertex and one line coming out of the midpoint of each side). **Answer choice (C) is the correct answer.**
21. As you can see from the pattern, the number of terms on the left side of each equation is equal to the base of the exponent on the right side of the equation. Therefore, we know we need 5 numbers in our answer, so answer choice (B) is incorrect. We can see that in each line of the pattern, we are only adding odd numbers, so answer choice (C) is incorrect. Finally, the odd number we start with in each new line of the pattern is one odd number higher than the number we ended with in the previous line. Therefore, since we ended with 19 in the third line (4^3), we want to start with 21 in the next line, so we get $21 + 23 + 25 + 27 + 29 = 5^3$. **Answer choice (D) is the correct answer.**

22. The net shows us that 4 of our faces are triangles. The only shape listed that has 4 triangular faces is a triangular prism. The square part of the net is the base of the prism. **Answer choice (B) is the correct answer.**
23. The difference between 4.0 and 2.4 is 1.6, and there are 8 spaces in between 2.4 and 4.0. To find the distance between each space, divide 1.6 by 8 to get 0.2. This means that the number line counts by 0.2. Since A is two spaces after 2.4, we need to go up by 0.2 twice, so we go up by 0.4. 2.4 plus 0.4 equals 2.8. B is 0.2 more than A, so B is at 3.0. C is 0.2 more than B, so C is at 3.2. **Answer choice (C) is the correct answer.**
24. The rectangular prism measures 4 cubes long, 2 cubes wide, and 3 cubes tall. Find the total number of cubes by multiplying $4 \cdot 2 \cdot 3$ which equals 24. The entire rectangular prism has a volume of 48 cubic ft, so the volume of each small cube is $48 \div 24$ which equals 2 cubic feet. **Answer choice (B) is the correct answer.**
25. If Carol owns x number of cats and Joe owns 5 more cats than Carol, in terms of x , Joe owns $x + 5$ cats. **Answer choice (A) is the correct answer.**
26. Since there are 20 cards and each card has a unique number, the probability of drawing any one card is $1/20$. We are looking for the probability of drawing a card with a number that is at least 13. At least 13 means greater than or EQUAL to 13. This means we want the probability of drawing 13, 14, 15, 16, 17, 18, 19, or 20. Since each card has a $1/20$ probability and there are 8 cards we can draw, the probability is $8/20$ which simplifies to $\frac{2}{5}$. **Answer choice (B) is the correct answer.**
27. The average of two numbers is the number that is directly in the *middle* of the two numbers. Therefore, if J is the average of H and another number, J is in the *middle* of H and another number. This means that the other number is 2 spaces to the left of J. Now, we can find the distance between each space by knowing that the difference between 30 and 20 is 10, and there are 5 spaces in between 20 and 30. 10 divided by 5 equals 2, so the number line counts by 2. J is one space to the left of 30, so J is at 28. The other number is 2 spaces to the left of J, so it's 4 less than J. **The other number is 24, so answer choice (A) is the correct answer.**
28. To estimate, round each number. Round 491 up to 500 and round 56 up to 60. Therefore, an estimate would be 500 times 60. **Answer choice (D) is the correct answer.**
29. Since $2/5$ of the 350 bikes sold were mountain bikes, to find out how many mountain bikes were sold multiply $2/5$ times 350: $2/5 \cdot 350 = 140$. To find how many of the bikes sold were not mountain bikes, subtract 140 from the 350 total bikes sold: $350 - 140 = 210$. **Answer choice (C) is the correct answer.**
30. Visually estimate how full one of the jars would be if you combine the two jars. If you pour jar 1 into jar 2, jar 2 will be almost full. Since a full jar holds 1 cup of water, we know our answer should be around 1 cup. **Answer choice (B) is the correct answer.**

31. Check each answer choice using the input/output pairs from the table. Answer choice (A) is incorrect because it doesn't work with rows 2, 3, and 4: $7 + 3$ does not equal 13, $8 + 3$ does not equal 15, and $10 + 3$ does not equal 19. Answer choice (B) is incorrect because it doesn't work with any of the rows: $4 + 5$ does not equal 7, $7 + 5$ does not equal 13, $8 + 5$ does not equal 15, and $10 + 5$ does not equal 19. Answer choice (C) is incorrect because it doesn't work with any of the rows: $2(4 - 1)$ does not equal 7, $2(7 - 1)$ does not equal 13, $2(8 - 1)$ does not equal 15, and $2(10 - 1)$ does not equal 19. **Answer choice (D) is the correct answer because $2 \cdot 4 - 1 = 7$, $2 \cdot 7 - 1 = 13$, $2 \cdot 8 - 1 = 15$, and $2 \cdot 10 - 1 = 19$.**
32. To find the average add up the numbers and divide by how many numbers you added up. The problem says that Marty biked 2.4 miles on Monday, 5.2 miles on BOTH Tuesday and Wednesday, and 3.6 miles on Thursday, so add up all the numbers and divide by 4 to find the average: $2.4 + 5.2 + 5.2 + 3.6 = 16.4 \div 4 = 4.1$ miles. **Answer choice (C) is the correct answer.**
33. If Mrs. Kierman bought 4 pies and each pie has 8 slices, this means that there are 32 slices total because 4 times 8 equals 32. If there are 20 people coming to the party, find out how many slices of pie each person gets by dividing the total number of slices (32) by the amount of people at the party (20): $32/20$ simplifies to $8/5$ which equals $1 \frac{3}{5}$. **The problem says "approximately" how many slices will each person get and $1 \frac{3}{5}$ is approximately $1 \frac{1}{2}$, so answer choice (B) is the correct answer.**
34. If you look at the right column of the table, the temperature goes down by 5 degrees, then 10 degrees, then 15 degrees. Every 5 minutes the temperature decreases by 5 more than the previous change. This means that from 30 minutes to 35 minutes the temperature will decrease by 30 degrees from 275 degrees to 245 degrees. From 35 minutes to 40 minutes the temperature will decrease 35 degrees from 245 degrees to 210 degrees. **Answer choice (A) is the correct answer.**
35. The mode is the number that appears the most. The problem states that the only mode of the set of numbers is 6 and 6 appears 3 times, so we know that no other number can appear 3 or more times in this set of numbers. 4 already appears twice in the set, so the number 4 cannot be the missing number because that would make it appear 3 times and it would also be the mode of the set of numbers. **Answer choice (A) is the correct answer.**
36. If the midpoint of each side of the rectangle is connected with each of the other midpoints, there would be a vertical line through the middle of the rectangle, a horizontal line through the middle of the rectangle, a diagonal line from the midpoint of the top down to the midpoint of the left side, a diagonal line from the midpoint of the top down to the midpoint of the right side, a diagonal line from the midpoint of the bottom up to the midpoint of the left side, and a diagonal line from the midpoint of the bottom up to the midpoint of the right side. This would create 1 triangle in each of the corners of the rectangle and 4 triangles in the middle of the rectangle for a total of 8 triangles. **Answer choice (C) is the correct answer.**

37. If a number is a multiple of 2 that also means it is divisible by 2 and if the number is divisible by 2 that means it is an even number. Since Kurt's number is not a multiple of 2, this means that it is not an even number. **The only odd number is 15, so answer choice (C) is the correct answer.**
38. To find the median, line the number up in order from least to greatest and the median is the middle number. On Monday the temperature was 15 degrees Celsius, on Tuesday the temperature was 10 degrees Celsius, on Wednesday the temperature was 30 degrees Celsius, on Thursday the temperature was 15 degrees Celsius, on Friday the temperature was 25 degrees Celsius, and on Saturday the temperature was 20 degrees Celsius. Listen in order from least to greatest we have 10, 15, 15, 20, 25, 30. Since we have 6 numbers there are 2 middle numbers: 15 and 20. To find the median with two middle numbers, find the mean or average of the two numbers by adding the two middle numbers and dividing by two: $15 + 20 = 35$ and $35 \div 2 = 17.5$. **Answer choice (B) is the correct answer.**
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Reading Comprehension

Passage 1

1. The primary purpose of the passage is to tell the story of Margaret going on her first camping trip with her brother. The passage doesn't really talk about the bond between Margaret and her brother Steve, so answer choice (A) is incorrect. While Margaret does face her fears of camping in the passage, the passage doesn't talk about the importance of that, so answer choice (C) is incorrect. While Margaret does find out that she enjoys camping, this is not the focus of the passage as a whole, so answer choice (D) is incorrect. **The main purpose of the passage is to tell the story of Margaret experiencing something new for the first time, so answer choice (B) is the correct answer.**
2. The word "quipped" in line 14 is describing something Steve said in lines 13-14, so we can eliminate answer choice (A) because Steve was speaking, not thinking. Lines 12-14 state "He looked at me with a sarcastic grin. 'I also forgot the tent,' Steve quipped." Sarcastic means something said in a humorous or joking way. **Since we know Steve said "I also forgot the tent" in a sarcastic way, we can infer that he was making a joke, so answer choice (C) is the correct answer.**
3. Lines 40-43 state "I felt a very odd sense of calm; a calm that I had never quite felt in the city. I decided right there that I really like camping." **Margaret decided that she liked camping when she realized that she felt calmer in the woods than she ever did at home in the city, so answer choice (D) is the correct answer.**
4. Lines 40-43 state "I felt a very odd sense of calm; a calm that I had never quite felt in the city. I decided right there that I really like camping." **Since Margaret has decided she really likes camping, we can infer that she will probably be going again in the future and this will not be her last time, so answer choice (B) is the correct answer.**

5. Lines 14-17 state “Maybe it wasn’t that I was nervous that we had forgotten a vital item, but I was just worried about doing something new.” From that we can see that Margaret started off being nervous about camping because it was something she had never done before. Lines 42-43 state “I decided right there that I really liked camping.”, so by the end of the camping trip Margaret had a much more positive feeling about camping. We know we are looking for an answer choice that goes from a negative emotion to a positive emotion, so we can eliminate answer choices (B) and (C) because they go from a positive to a negative emotion and a negative to a negative emotion respectively. Terrified is too extreme of an emotion because while Margaret was nervous she still agreed to do it, so answer choice (D) is incorrect. **We know Margaret started off nervous and ended up really liking camping, this is closest to answer choice (A), so answer choice (A) is the correct answer.**

Passage 2

6. The main purpose of the passage is to educate readers on the construction of the transcontinental railroad. The transcontinental railroad was built to connect the east and west coasts of America. While the passage does talk about how the immigrant workers working on the railroad were oftentimes treated worse than their American counterparts, this is not the main focus of the passage, so answer choice (A) is incorrect. While we might assume that the transcontinental railroad was one of the greatest contributions to America, the passage does not talk about this, so answer choice (C) is incorrect. The passage does not argue or explain why railroads are the best form of transportation, so the answer choice (D) is incorrect. **The primary purpose of the passage is to discuss the building of the transcontinental railroad, so answer choice (B) is the correct answer.**
7. Lines 8-15 are talking about the Pacific Railroad act, which was a bill passed by Congress in 1962. The word “chartered” is used to describe what the bill did in order to get two companies to build the railroad. If we think about it, when someone wants something built, what do they do? They usually wouldn’t force someone else to build it, so answer choice (A) is incorrect.. They might recommend someone build it but then there is no guarantee that it will get built, so answer choice (B) is incorrect.. It wouldn’t make sense to destroy someone if they wanted something built, so answer choice (C) is incorrect. Usually they would hire someone or a group of people to build it, so it makes sense that the government wrote this bill and hired two companies to build the transcontinental railroad. **Answer choice (D) is the correct answer.**
8. Lines 11-13 state “The goal of the Pacific Railroad Act was to connect the east and west coasts of the United States.” The first paragraph in the passage tells us that in 1857 it could take over a month for someone to travel across the country from New York to California and that the journey was not only long but could be very dangerous. We can assume that the US government would not want its people taking a long dangerous journey if it could be avoided. When the transcontinental railroad was completed, someone could make the journey in less than a week and it was probably a lot safer, so we can assume the purpose of the Pacific Railroad Act was to make cross country travel more efficient and safe. **Answer choice (A) is the correct answer.**

9. The author states in the first paragraph that traveling across the country before the transcontinental railroad could take over a month. In the last paragraph the author states that once the railroad was built the trip took less than a week, so we can assume that the author would agree that the transcontinental railroad changed the way Americans were able to travel. **Answer choice (D) is the correct answer.**
10. Lines 34-37 state “First, Central Pacific had to build their railway over the high mountain range on the east side of California: the Sierra Nevada, so the location of the railway was a challenge and answer choice (B) is incorrect. Lines 37-39 state “Secondly many tunnels needed to be dug through solid rock to make way for the tracks.”, so the building of tunnels was a challenge and answer choice (C) is incorrect. Lines 40-42 state “Lastly, the snow, rain, and extreme cold temperatures often caused delays in the building schedule for both companies.”, so the weather conditions were a challenge and answer choice (D) is incorrect. **The only thing not mentioned as a challenge faced building the railroad is conflicts between workers, so answer choice (A) is the correct answer.**

Passage 3

11. The main purpose of the passage is to educate readers on the life and accomplishments of Galileo. Galileo was an Italian astronomer and inventor who made some of the most important discoveries in history. The passage does talk about any other Italian scientist besides Galileo, so answer choice (A) is incorrect. The passage also does not talk about Galileo being married, so answer choice (B) is incorrect. While the passage does talk about Newton developing the laws of gravitation, the passage does not focus on this, so answer choice (D) is incorrect. **The passage is primarily concerned with Galileo's inventions and discoveries, so answer choice (C) is the correct answer.**
12. When a word or group of words is in quotation marks, this usually implies that the author is using the word/words in an unusual and oftentimes not literal way. In the passage the word “modern” is in quotes because the author is using it ironically. This is because while the telescopes were modern for their time, they would be far from modern today. We know this because the passage tells us that before Galileo improved this design, the telescopes of the time could not see the moon in detail and today anyone with a telescope can. **Answer choice (B) is the correct answer.**
13. The word “instrumental” in line 36 is describing Galileo’s role in confirming a suspicion that the scientific community of his time had been holding for years. The paragraph goes on to say that Galileo’s observations proved the long standing belief that the earth was the center of the universe false. It wouldn’t make sense to say that Galileo’s was not helpful in this discovery because he was the main reason it happened, so answer choice (A) is incorrect. It also wouldn’t make sense to say he was blamed in confirming a suspicion, because despite what the church of the time felt about it, it was still an overall good thing, so answer choice (B) is incorrect. Contextually it wouldn’t make sense to say Galileo was unsure in confirming a suspicion, so answer choice (D) is incorrect. **We can infer that Galileo was pretty important in the process of confirming this long standing**

suspicion, as his observations were what led to the confirmation in the first place, so answer choice (C) is the correct answer.

14. Lines 17-21 state “While studying at the University of Pisa, he discovered that all objects, regardless of mass, fall at the same rate. He proved this by rolling balls of different weight down a ramp and measuring the time elapsed.” If his ball and ramp experiment proved his theory that all objects fall at the same rate, then it can be inferred that all of the balls rolled at essentially the same speed. **Answer choice (D) is the correct answer.**
15. Paragraph 4 in the passage talks about how Galileo’s observations confirmed a suspicion that scientists had been holding for years: the Copernican system. The paragraph goes on to say that the prevailing belief at the time was that Earth was the center of the universe, but that these observations made by Galileo proved otherwise. **His observations proved that the Earth was not the center of the universe, so answer choice (A) is the correct answer.**

Passage 4

16. The primary purpose of the passage is to educate the reader of the life and works of the very influential American author, F. Scott Fitzgerald. The passage isn’t focused on American storytelling in general but rather F. Scott Fitzgeralds specifically, so answer choice (A) is incorrect. The last line in the passage says that Fitzgerald’s legacy will be remembered for years to come, so answer choice (B) is incorrect because he clearly gets a lot of recognition for his accomplishments. While the passage does mention *The Great Gatsby*, it does not say that it is one of the greatest novels of all time and it only mentions the novel in the very beginning, so answer choice (C) is incorrect. **The main idea of the passage is that F. Scott Fitzgerald was a very influential American author, so answer choice (D) is the correct answer.**
17. The word “honed” refers to what Fitzgerald did to his writing skills while studying at Princeton and studying literature. Right away we can eliminate answer choice (D) because we know that Fitzgerald went on to write famous novels after college so he could not have lost his writing skills. If we think about what people usually do while studying at college and look at the remaining answer choices, “improved” makes the most sense. **People go to college to learn and improve their skills, so answer choice (C) is the correct answer.**
18. Lines 5-7 state “Fitzgerald only wrote three other novels during his lifetime, in addition to many short stories and novellas.” **The passage tells us he wrote four novels, *The Great Gatsby* and three others, so answer choice (A) is the correct answer.**
19. Lines 34-36 state “His novel, *This Side of Paradise*, was an instant classic and sold over 40,000 copies its first year.” Lines 37-40 state “Over the next fifteen years, Fitzgerald would go on to write and publish the other three novels for which he is now famously known.” From these two sentences we know that *This side of Paradise* was Fitzgerald’s first novel and we can infer that it was a huge success. **Answer choice (B) is the correct answer.**

20. Answer choice (A) is incorrect because throughout the passage the author is praising Fitzgerald and his works, so he/she does not feel indifferent towards Fitzgerald. Answer choice (B) is incorrect because the author does not talk about wanting what Fitzgerald has, so there is not a jealous tone. Answer choice (D) is incorrect because the author does not criticize Fitzgerald in the passage. **Answer choice (C) is the correct answer because the author talks about Fitzgerald and his accomplishments with admiration and respect.**

Passage 5

21. The main purpose of the passage is to tell the story of a girl learning and practicing how to drive a car with her father. While the passage does tell us that Jasmine’s father crashed while trying to parallel park, it never says that Jasmine is a better driver than her father, so answer choice (B) is incorrect. In the passage Jasmine hasn’t taken the driving test yet, so answer choice (C) is incorrect. While we can infer some things about the relationship between Jasmine and her father, this isn’t the main idea of the passage, so answer choice (D) is incorrect. **The main idea of the passage is Jasmine's preparation for her upcoming driving test, so answer choice (A) is the correct answer.**
22. Lines 18-20 state “Seeing as my mom had two jobs and practically no time, the driving duty fell mostly to my dad.” **Jasmine’s mother could not help her learn to drive because she was too busy with her jobs, so answer choice (B) is the correct answer.**
23. Lines 26-28 state “‘The guy told me to go through a red light, and when I listened, he failed me,’ another friend complained.” **This is an example of how someone could and did fail their driving test, so answer choice (C) is the correct answer.**
24. Lines 35-38 state “‘Okay Jasmine, it’s not as bad as everyone says it is. I might be biased, though. I lived in Chicago for a year, so I used to do this all the time.’” Jasmine’s father is referring to parallel parking and he is telling Jasmine that it is not that bad. He says he might be biased because he used to live in Chicago and do it all the time. **We can infer that “I might be biased” refers to the fact that he might not think parallel parking is hard because he was used to it, so answer choice (D) is the correct answer.**
25. Referring to how Jasmine felt about learning to drive with her father, lines 8-11 state “I wasn’t enjoying this whole process, but if I wanted to get my license, I had to spend time behind the wheel with my dad.” **We can see that while Jasmine did not enjoy learning to drive with her dad, she realized it was necessary, so answer choice (A) is the correct answer.**
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Mathematics Achievement

1. To find the perimeter of an irregular shape like this, think of it as a rectangle. Since all of the angles are right angles, the sum of the bottom side must equal the sum of the top two sides, so the lengths of the top and bottom are both 13 in. The sum of the right two sides must equal the sum of the left side, so the lengths of the left and right sides are both 12 in. Add up all of the sides: 13 in + 13 in + 12 in + 12 in = 50 in. **Answer choice (D) is the correct answer.**
2. First we need to find what the time is in New York when the plane leaves London. Since London is 4 hours ahead of New York, subtract 4 hours from 11 pm which gives you 7 pm. Since the plane leaves London at 7 pm New York time and it arrives 9 hours later, add 9 hours to 7 pm which gives you 4 am New York time. **Answer choice (A) is the correct answer.**
3. Haley has 8 red pencils and gives half to her brother. $\frac{1}{2}$ times 8 equals 4, so Haley has 8 minus 4 red pencils left, which equals 4 red pencils. Haley also has 12 blue pencils and gives a fourth to her sister. $\frac{1}{4}$ times 12 equals 3, so Haley has 12 minus 3 blue pencils left, which equals 9 blue pencils. To find how many total pencils Haley has left, add her leftover red pencils plus her leftover blue pencils: $4 + 9 = 13$ pencils. **Answer choice (D) is the correct answer.**
4. If you divide 77 by 9, you get 8 with a remainder of 5 because 8 times 9 equals 72, and there are 5 leftover when you subtract 72 from 77. **Answer choice (C) is the correct answer.**
5. The distributive property states that multiplying the sum of two or more numbers by a number will give the same result as multiplying each number individually by the number and then adding the products together. It also states that multiplying the difference of two or more numbers will give the same result as multiplying each number individually and then finding the difference of the products (the order matters). Answer choice (B) illustrates that multiplying 5 by the difference between 9 and 7 is the same as multiplying 5 by 9 and then subtracting 5 times 7. **This correctly illustrates the distributive property, so answer choice (B) is correct.**
6. To write “five hundred six thousand seventy two” in standard form, we have “five hundred six thousand” which is written as 506,000, plus “seventy two” which is written as 72. $506,000 + 72$ equals 506,072. **Answer choice (A) is the correct answer.**
7. The equation to find the area of a triangle is $A = \frac{1}{2}bh$, and the height of the triangle is 10 feet. First, replace h in the equation with 10, so the equation is now $A = \frac{1}{2}b(10)$. We want to isolate the b , so first divide both sides by $\frac{1}{2}$, which is the same as multiplying by 2. This gives us $2A = b(10)$. Next, divide both sides by 10, which gives us $\frac{2A}{10} = b$ which can be flipped around and written as $b = \frac{2A}{10}$. **Answer choice (A) is the correct answer.**
8. A *kite* is a specific type of quadrilateral with two pairs of congruent (equal) consecutive (one after the other) sides and only one pair of opposite congruent angles. **The figure shown matches that description, so answer choice (D) is the correct answer.**

9. Since all answer choices are either a fraction or a percent, change 0.06 into a percent and a fraction and check which answer choice is right. To change a decimal into a fraction, think about how you would read the decimal out loud. 0.06 is read as “six hundredths.” As a fraction this is $\frac{6}{100}$. To change a decimal into a percent, move the decimal point *two places to the right*. If you do this, 0.06 becomes 6%. **6% matches answer choice (A), so answer choice (A) is the correct answer.**
10. Although the problem says that Carlon selects four cards, we only want to find the probability that the *first card* picked is labeled with the number 4. This means we don’t care about the three other cards. There are 9 total numbers from 1 through 9, and only 1 of the numbers is a 4, so the probability of choosing a card labeled 4 is $\frac{1}{9}$. **Answer choice (A) is the correct answer.**
11. **The correct answer is (C).** When adding whole numbers, stack the numbers on top of each other and line up the digits. To see a step by step solution of this problem, follow this link and type in the problem: [how to add large numbers](#)
12. **The correct answer is (C).** When performing long division, place the first number underneath the division box and the second number outside of the division box. To see a step by step solution of this problem, follow this link and type in the problem: [how to perform long division](#)
13. If you can’t immediately tell if any of the fractions don’t fall in between $\frac{1}{4}$ and $\frac{2}{5}$, you’ll need to check each answer choice until you find the correct answer. First, change all the fractions in the problem with 1 as the numerator into fractions with 2 as the numerator. $\frac{1}{4}$ becomes $\frac{2}{8}$, $\frac{1}{2}$ becomes $\frac{2}{4}$, and $\frac{1}{3}$ becomes $\frac{2}{6}$. $\frac{2}{4}$ is greater than $\frac{2}{5}$ because when fractions have the same numerator, the fraction with the smaller denominator is the larger fraction, so we can cross out answer choice (A). $\frac{2}{9}$ is less than $\frac{2}{8}$ because when fractions have the same numerator, the fraction with the larger denominator is the smaller fraction, so we can cross out answer choice (C). $\frac{4}{7}$ is greater than $\frac{2}{5}$ because $\frac{2}{5}$ is equal to $\frac{4}{10}$ and when fractions have the same numerator, the fraction with the smaller denominator is the larger fraction, so we can cross out choice (D). **$\frac{2}{6}$ is greater than $\frac{2}{8}$ ($\frac{1}{4}$) but less than $\frac{2}{5}$, so answer choice (B) is the correct answer.**
14. Prime Factorization means finding which prime numbers multiply together to make the original number. To find the prime factorization of 54, make a factor tree for 54 and continue breaking up the factors into more branches until you are left with all prime numbers. If you do this, you get that 54 equals 2 times 3 times 3 times 3 or 2 times 3^3 . **Answer choice (A) is the correct answer.** To see a step by step solution of this problem, follow this link, type in the number, and choose “Find prime factorization and factor tree”: [prime factorization calculator](#)
15. We want to estimate one-third of 2,722. To do this, we want to round 2,722 to 3,000 because it is easy to find one-fourth of 3,000. To find one-fourth of 3,000 divide 3,000 by 4 (or multiply 3,000 by one-fourth) to get 750. **We want to choose the answer choice that is closest to 750 feet, so answer choice (B) is the correct answer.**

16. The question is asking how much more it costs for 1 adult and 2 children to eat at the dinner buffet than the breakfast buffet, so we are looking for the *difference*. First, find how much it costs for 1 adult and 2 children to eat at the dinner buffet by adding \$20 plus \$16 plus \$16 which gives you \$52. Next, find how much it costs for 1 adult and 2 children to eat at the breakfast buffet by adding \$13 plus \$5 plus \$5 which gives you \$23. Finally, find how much more it costs for 1 adult and 2 children to eat at the dinner buffet than the breakfast buffet by subtracting \$23 from \$52 which gives you \$29. **Answer choice (C) is the correct answer.**
17. Coordinate points are written in the form (x, y) , so the x coordinate comes first. We are looking for a point located at $(2, -3)$, so the x coordinate is 2 and the y coordinate is -3. Point S is at 2 on the x -axis and -3 on the y -axis, so point S is located at $(2, -3)$. **Answer choice (B) is the correct answer.**
18. First, convert 4.7 to a fraction. To change a decimal into a fraction, think about how you would read the decimal out loud. 4.7 is read as “four and seven tenths.” As a fraction, this is $4\frac{7}{10}$. Next, change $5\frac{2}{5}$ to $5\frac{4}{10}$ so both fractions have the same denominator. Now add the whole numbers from each: $4 + 5 = 9$. Next, add the fractions from each: $\frac{7}{10} + \frac{4}{10} = 1\frac{1}{10}$. **Finally, add 9 plus $1\frac{1}{10}$ which gives you $10\frac{1}{10}$, so answer choice (C) is the correct answer.**
19. Since 15 minus 24 divided by triangle equals 12, this means that 24 divided by triangle equals 3 because 15 minus 12 equals 3. If 24 divided by triangle equals 3, triangle equals 8 because 24 divided by 8 equals 3. **Answer choice (C) is the correct answer.** You can also solve the problem by plugging in each answer choice for the triangle and seeing which number makes the equation equal on both sides.
20. First, convert $\frac{1}{4}$ to $\frac{2}{8}$ so both fractions have the same denominator. If Winston gives $\frac{3}{8}$ of his collection to Jack and $\frac{2}{8}$ of his collection to Heather, that means he gave away $\frac{5}{8}$ of his collection total because $\frac{2}{8}$ plus $\frac{3}{8}$ equals $\frac{5}{8}$. To find what fraction of his collection Winston has left, subtract what he gave away from 1: $1 - \frac{5}{8} = \frac{3}{8}$. **Answer choice (B) is the correct answer.**
21. To estimate, round each number. Round 19.75 up to 20 and round 2.15 down to 2. Therefore, an estimate would be 20 times 2. **Answer choice (C) is the correct answer.**
22. Each donut on the chart represents 50 donuts sold. According to the chart, Dunk More sold 275 donuts (50 times $5\frac{1}{2}$) and Dip and Sip sold 100 donuts (50 times 2). To find how many more donuts Dunk More sold than Dip and Sip, subtract 100 from 275 which gives you 175 more donuts. **Answer choice (D) is the correct answer.**
23. In the first column in the pattern there is 1 circle. The next column has 2 circles, the next column has 4 circles, the next column has 7 circles, and the last column has 11 circles.. The pattern is adding one more circle than we added to the previous column. We added 4 circles in the fifth column so we need to add 5 circles to the amount of circles in column five for the sixth: $11 + 5 = 16$. For the seventh column we need to add 6 circles to the amount of circles in column six: $16 + 6 = 22$. **Answer choice (D) is the correct answer.**

- 24. The numbers in the set are all rational numbers because they can all be written as a fraction since they are all fractions, so answer choice (A) is the correct answer.** The numbers are not integers because integers are any numbers that are not decimals or fractions, so answer choice (B) is incorrect. None of the numbers in the set are mixed numbers because they are improper fractions, so answer choice (C) is incorrect. The numbers are not whole numbers because a whole number is a number without fractions, so answer choice (D) is incorrect.
- 25. The mode is the number that appears the most. Player one scored 10 points, player two scored 25 points, player three scored 5 points, player four scored 30 points, player five scored 15 points, player six scored 20 points, and player seven scored 5 points. The only number to appear more than once is 5, which appears twice, so the mode of the data is 5. Answer choice (A) is the correct answer.**
- 26. The part of the circle that represents pineapple is less than 50% and greater than 10% so answer choices (A) and (D) are incorrect. It looks too small to be 40% so answer choice (B) is the correct answer.**
- 27. The area of a parallelogram is found by multiplying the base b times the height h . The base of Mr. Williams' garden is 15 in. and the height is 12 in. 15 times 12 equals 180 square in, so answer choice (B) is the correct answer.**
- 28. We know Sheila has 36 candles and wants to package them into 4 boxes. To find the number of boxes b , we have to divide 36 by 4. As an equation this looks like $b = 36 \div 4$, which can also be written $b \cdot 4 = 36$. Answer choice (A) is the correct answer.**
- 29. The formula for volume of a cube is $V = s \cdot s \cdot s$. Since a cube has all equal side lengths, we can find the volume of this cube by multiplying $8 \cdot 8 \cdot 8$ which equals 512 cubic inches. Answer choice (D) is the correct answer.**
- 30. We are looking for which statement is TRUE. Answer choice (A) is incorrect because in week 1 Pam worked out for 180 minutes total and in week 2 she worked out for 250 minutes total. Answer choice (B) is the correct answer because the median for the first week (the number in the middle when the numbers are ordered from least to greatest) is 20 and the mode (the number that appears most often) is also 20. Answer choice (C) is incorrect because the median time Pam worked out during week 2 was 30 minutes. Answer choice (D) is incorrect because the range (the difference between the highest number and the lowest number) for the entire table is 30 minutes.**
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Practice Test 3 Answer Explanations

Verbal Reasoning

Synonyms

1. **Courteous** means polite or respectful. For example, holding the door for someone else is considered **courteous**. This is closest in meaning to answer choice **(B) polite**.
2. **Colleague** means someone you work with. For example, if you are a teacher, another teacher at your school would be your **colleague**. This is closest in meaning to answer choice **(D) coworker**.
3. **Stubborn** means unyielding or persistent. For example, repeatedly trying to do something even when others have told you it won't work is **stubborn**. This is closest in meaning to answer choice **(C) willful**.
4. **Puzzle** means to confuse or perplex someone. For example, a very difficult riddle might **puzzle** you when trying to solve it. This is closest in meaning to answer choice **(A) confuse**.
5. **Fury** means wild or violent anger. For example, being accused of something you didn't do might send you into a fit of **fury**. This is closest in meaning to answer choice **(D) rage**.
6. **Perspective** means a point of view. For example, something that seems like bad luck might actually be a blessing from a different **perspective**. This is closest in meaning to answer choice **(A) outlook**.
7. **Incoherent** means expressed in a confusing or unclear way. For example, if you are trying to talk in a noisy room, your words might be **incoherent**. This is closest in meaning to answer choice **(B) unclear**.
8. **Hostile** means unfriendly or antagonistic. For example, if you approach a mother bear and her cubs, she will probably act very **hostile** towards you. This is closest in meaning to answer choice **(C) aggressive**.
9. **Amplify** means to increase in volume or intensity. For example, the shape of a speaker is designed to **amplify** the sound coming out of it. This is closest in meaning to answer choice **(D) intensify**.
10. **Preliminary** means an action or event that comes before something else. For example, the basic math class was **preliminary** to the more advanced classes. This is closest in meaning to answer choice **(C) introductory**.

11. **Accommodating** means willing to please or help.. For example, public buildings that have ramps in addition to stairs are very **accommodating** to people with disabilities. This is closest in meaning to answer choice **(A) helpful**.
12. **Dignity** means a sense of pride. For example, someone who is very well respected is probably a person of **dignity**. This is closest in meaning to answer choice **(D) pride**.
13. **Emphasize** means to give special importance to something. For example, if you want to **emphasize** a work in a sentence you might make it bold or underline it. This is closest in meaning to answer choice **(B) highlight**.
14. **Bias** means being in favor or against one thing, usually in a way considered to be unfair. For example, if your boss is older, he/she might have a **bias** towards hiring older employees. This is closest in meaning to answer choice **(C) prejudice**.
15. **Defiant** means bold in resistance. For example, a child who doesn't want to go to bed might be very **defiant**. This is closest in meaning to answer choice **(A) resistant**.
16. **Injustice** means lack of fairness. For example, getting away with cheating in school is an **injustice**. This is closest in meaning to answer choice **(B) unfairness**.
17. **Pacify** means to bring peace or quell anger or pain. For example, a mother might try to **pacify** her child by singing them a lullaby. This is closest in meaning to answer choice **(D) soothe**.

Sentence Completion

18. **The correct answer is choice (B) contributions, which are significant things that are given to a person or a group of people.** This is an example of a continuation or restatement question. The clue in this question is the word “including” in the middle of the sentence. The second part of the sentence talks about things that helped shape the modern world including newspapers, plumbing, and surgical tools. These are all examples of significant things or **contributions** that shaped the world we live in now.
19. **The correct answer is choice (D) eventually, which means at a later time.** This is an example of a contrast question. The clue in this question is the word “although” at the start of the sentence. The first part of the sentence says that the flight Evan and his mother were on felt like the longest flight ever. The second part of the sentence says that Evan’s mother assured him of blank. Since the flight seemed like the longest flight ever, Evan might think it would never end but because this is a contrast question we know that Evan’s mother told him that they would **eventually** reach their destination.
20. **The correct answer is choice (A) knack, which means an acquired or natural skill in something.** This is an example of a continuation or restatement question. The clue in this question is

the word “and” in the middle of the sentence. The second part of the sentence says that Corey repaired his mother’s kitchen sink, dishwasher and toilet in a few hours. This is a continuation of the idea that Corey is skilled in or has a **knack** for fixing things.

- 21. The correct answer is choice (B) bravery, which means courageous behavior.** This is an example of a contrast question. The clue in this question is the word “while” at the beginning of the sentence. The first part of the sentence says that Kevin was normally cautious and unadventurous. This would lead us to believe that he would not participate in anything risky or adventurous like cliff jumping. Since this is a contrast question we know that we are looking for the opposite of what we would normally believe which would be Kevin showing courage or **bravery** and participating in an activity like cliff jumping.
- 22. The correct answer is choice (D) investigate, which means to research or examine the facts of an incident or accusation.** This is an example of a continuation or restatement question. The first part of the sentence tells us that Jen was a fan of murder mysteries. It would make sense then that if the neighbor's cat was killed and no one knew how it happened, that she would want to examine or **investigate** how it happened.
- 23. The correct answer is choice (C) notable, which means worthy of attention or remarkable.** This is an example of a continuation or restatement question. The second part of the sentence says that Martin Luther King Jr. was known around the world for his lasting impact on the lives of African Americans. Someone who has a lasting impact on the world in any way is worthy of attention or **notable**.
- 24. The correct answer is choice (A) coincidental, which means something happened by chance.** This is an example of a contrast question. The clue in this question is the word “although” at the start of the sentence. The second part of the sentence tells us that the subject of the sentence and their friend had planned to wear matching outfits. This means that it was intentional, but because this is a contrast question, we are looking for an answer choice that is opposite of this. The opposite of intentional is happening by chance or **coincidental**.
- 25. The correct answer is choice (C) deliberately, which means on purpose or intentionally.** This is an example of a contrast question. The clue in this question is the word “while” at the beginning of the sentence. The first part of the sentence says that Ashley claimed it was an accident that she threw the ball at Emma’s face. This would lead us to believe that the other players would believe her and agree that it was unintentional. Since this is a contrast question we are looking for an answer that is the opposite of this. The opposite of an accident is something that is done on purpose or **deliberately**.
- 26. The correct answer is choice (D) unpredictable, which means not able to be known in advance.** This is an example of a cause and effect question. The clue in this question is the word “because” at the start of the sentence. The effect in this sentence is Ashley having to pack many different types of clothing when she travels. If we think about why you would have to do this, it makes sense that you

would pack many different types of clothing if you didn't know what kind of weather you would have or if the weather was **unpredictable**.

- 27. The correct answer is choice (A) cooperate, which means to work together with a person or group for a common goal.** This is an example of a cause and effect question. The clue in this question is the word “after” at the start of the sentence. The cause in this sentence is the suspects realizing that the police had hard evidence to convict them of the crime. If we think about how someone would feel if they were suspects of a crime and learned that the police had evidence that they committed the crime, they would probably be scared and more likely to work with or **cooperate** with the police to try to get a lesser punishment.
- 28. The correct answer is choice (C) expansion, which means the action of becoming larger.** This is an example of a cause and effect question. The cause in this question is the family finding an ideal location with plenty of land. The blank in this question is referring to what finding that land allowed the family to do regarding their farm business. If we think about a farm, we know that it usually requires some amount of land to run, so it makes sense that finding a location with plenty of land would allow for the growth or **expansion** of that business.
- 29. The correct answer is choice (B) really didn't care for cookies.** This is an example of a contrast question. The clue in this question is the word “although” in the middle of the sentence. The first part of the sentence says that Norberto loved eating dessert. If someone loves eating dessert, that usually means they would eat any and all kinds of dessert. Since this is a contrast question, we are looking for an answer that is in contrast to that belief, so Norberto not really liking cookies makes sense.
- 30. The correct answer is choice (D) owned expensive jewelry before.** This question doesn't really fit nicely into any of the categories, so we will use context clues to find the answer. The first part of the sentence says “excluding the diamond necklace that Chastity received for her 25th birthday,…” The word excluding tells us that whatever comes after that first statement will be true except for what was said before the word excluding. In this case Chastity never owning expensive jewelry is true except for the diamond necklace she received as a gift. None of the other answer choices are made untrue by the fact that Chastity received a diamond necklace as a gift for her birthday.
- 31. The correct answer is choice (C) bike to work instead of having her parents give her a ride.** This is an example of a cause and effect question. The clue in this question is the word “because” at the beginning of the sentence. The cause in this sentence is Kris trying to be more independent. We are looking for an answer choice that expresses her being more independent. Biking to work instead of having her parents drive her is the correct answer because doing things without the help of your parents is a way to be more independent.
- 32. The correct answer is choice (A) became the youngest Nobel Peace Prize winner.** This is an example of a continuation or restatement question. The first part of the sentence tells us that Malala Yousafzai is only 17 years old. We are looking for an answer that has something to do with being

young because the sentence wouldn't mention her age in that way if it was not related. Her becoming the youngest Nobel Peace Prize winner is the only answer choice that is related to her age.

- 33. The correct answer is choice (B) did not think that they were responsible employees.** This is an example of a contrast question. The clue in this question is the word “although” at the start of the question. This is a tricky question because there are two answers that look like they make sense but one is the better answer. The first part of the sentence tells us that Linda was friendly with her coworkers and enjoyed spending time with them outside of work.
- 34. The correct answer is choice (B) wears shorts and sandals.** This is an example of a contrast question. The clues in this question are the words “even if” at the beginning of the sentence. The first part of the sentence says “Even if it is freezing outside, Dale still...” We would expect that if it was freezing outside someone would dress in warm clothes. Since this is a contrast question we are looking for an answer that is opposite from that, and wearing shorts and sandals is the opposite of dressing warmly.
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Quantitative Reasoning

1. Since 12 and 18 can both be divided by x without a remainder, that means that their greatest common factor can also be divided by x without a remainder. **The GCF of 12 and 18 is 6, so answer choice (C) is the correct answer.**
2. Since all the smaller triangles are equal in size and there are 3 shaded triangles and 6 non-shaded triangles, the ratio of the shaded area to the non-shaded area is 3:6. **This can be simplified to 1:2, so answer choice (A) is the correct answer.**
3. The difference between 1 and 0 is 1, and there are 5 spaces in between 0 and 1. To find the distance between each space, divide 1 by 5 to get $\frac{1}{5}$. This means that the number line counts by $\frac{1}{5}$. To get from 1 to M, we need to go down by $\frac{1}{5}$. 1 minus $\frac{1}{5}$ equals $\frac{4}{5}$, so M is at $\frac{4}{5}$. **Answer choice (D) is the correct answer.**
4. According to the graph, the temperature on Tuesday was 10 degrees celsius and the temperature on Thursday was 15 degrees celsius. Answer choice (A) is incorrect because the temperature on Tuesday was 5 degrees less than the temperature on Thursday. **Answer choice (B) is the correct answer because 10 degrees times 1.5 equals 15 degrees.** Answer choice (C) is incorrect because the temperature on Thursday was 5 degrees higher than the temperature on Tuesday. Answer choice (D) is incorrect because the temperature on Thursday was 15 degrees, so half of that would equal 7.5 degrees.
5. To find 90% of 200, we need to multiply 90% and 200 because *of* in math means multiply. We CANNOT multiply a percent, so first we need to change 90% into a decimal or fraction. If we

change 90% into a decimal, we get 0.9. 0.9 multiplied by 200 equals 180. **Answer choice (D) is the correct answer.**

6. If 2 gallons is equal to 16 pints, this means that 1 gallon is equal to 8 pints. If there are 8 pints in 1 gallon, to find the number of gallons in 40 pints, divide 40 by 8 which equals 5 gallons. **Answer choice (D) is the correct answer.**
7. To find the average add up the numbers and divide by how many numbers you added up. The problem says that Christina spent $1\frac{1}{3}$ hours on homework on Monday, $2\frac{1}{3}$ hours on BOTH Tuesday and Wednesday, 1 hour on Thursday, and 2 hours on Friday, so add up all the numbers and divide by 5 days. To add the fractions, first add the whole numbers: $1 + 2 + 2 + 1 + 2 = 8$. Next add up all the fractions: $\frac{1}{3} + \frac{1}{3} + \frac{1}{3} = 1$. Now add the total from the whole numbers to the total from the fractions: $8 + 1 = 9$ hours. **Finally, divide 9 by 5 to find out the average number of hours Christina spent doing homework each day: $\frac{9}{5}$ equals $1\frac{4}{5}$, so answer choice (B) is the correct answer.**
8. Since the probability of hitting a blue section of the dartboard is 2 out of 5 or $\frac{2}{5}$, this means $\frac{2}{5}$ of the 20 sections are blue. Find $\frac{2}{5}$ of the 20 sections by multiplying $\frac{2}{5}$ by 20 which equals 8. **Answer choice (C) is the correct answer.**
9. The large cube measures 4 small cubes wide, 4 small cubes long, and 4 small cubes tall. Find the number of small cubes that can fit inside the large cube by multiplying $4 \cdot 4 \cdot 4$ which equals 64. Each small cube has a volume of 1 cubic cm, so the volume of the larger cube is $1 \cdot 64$ which equals 64 cubic cm. **Answer choice (C) is the correct answer.**
10. Answer choice (A) is incorrect because 6 is the product of 2 and 3. Answer choice (B) is incorrect because 15 is the product of 3 and 5. Answer choice (C) is incorrect because 35 is the product of 5 and 7. **Answer choice (D) is the correct answer because 42 is NOT the product of two prime numbers.**
11. After being translated 1 unit up and 2 units right, point A has coordinates (5, 8). To find the starting coordinates of points A, we need to perform the reverse steps: move 1 unit down and 2 units left. To move 1 unit down, subtract 1 from the y coordinate, so now the y coordinate is 7. To move 2 units left, subtract 2 from the x coordinate, so now the x coordinate is 3. The starting coordinates of points A were (3, 7). **Answer choice (A) is the correct answer.**
12. To find the area of an irregular figure like this, we have to divide the figure into two regular figures and then find their areas and add them back together. Let's divide the figure into two rectangles by continuing the vertical line from the top right all the way down to the base. Now we have one rectangle (the one on the left) with a length of 12 meters and a width of 5 meters, and a second rectangle (the smaller one on the right) with a length of 5 meters and a width of 3 meters. For a rectangle, $A = lw$, so for the first rectangle we have $A = 12 \cdot 5$ which equals 60 and for the second

rectangle we have $A = 5 \cdot 3$ which equals 15. To find the area of the entire figure add 60 plus 15 which equals 75 sq. meters. **Answer choice (B) is the correct answer.**

- 13.** The probability of choosing a caramel chocolate is 3 out of 4 or $\frac{3}{4}$. Check each answer choice until you find one that has the probability of choosing a caramel chocolate as $\frac{3}{4}$. For answer choice (A), there are 6 caramel chocolates and 8 other chocolates. This means there are 14 total chocolates, so the probability of choosing a caramel chocolate is $\frac{6}{14}$ which reduces to $\frac{3}{7}$. Answer choice (A) is incorrect. For answer choice (B), there are 8 caramel chocolates and 6 other chocolates. This means there are 15 total chocolates, so the probability of choosing a caramel chocolate is $\frac{8}{15}$. Answer choice (B) is incorrect. For answer choice (C), there are 21 caramel chocolates and 7 other chocolates. This means there are 28 total chocolates, so the probability of choosing a caramel chocolate is $\frac{21}{28}$ which simplifies to $\frac{3}{4}$. **Answer choice (C) is the correct answer.** For answer choice (D), there are 30 caramel chocolates and 40 other chocolates. This means there are 70 total chocolates, so the probability of choosing a caramel chocolate is $\frac{30}{70}$ which simplifies to $\frac{3}{7}$. Answer choice (D) is incorrect.
- 14.** Since Mel answered 10 more questions correctly than incorrectly, we know that she answered more than half of the questions correctly. Half of 50 equals 25, so we can cross out answer choices (A) and (B) because they are less than 25. Now try answer choices (C) and (D) and see which one works with the requirements. For answer choice (C), if Mel answered 30 questions correctly, and she answered 10 more questions correctly than she did incorrectly, then Mel answered 20 questions incorrectly. **30 questions correctly plus 20 questions incorrectly equals 50 total questions, so answer choice (C) is the correct answer.** For answer choice (D), if Mel answered 35 questions correctly and she answered 10 more questions correctly than she did incorrectly, then Mel answered 25 questions incorrectly. 35 questions correctly plus 25 questions incorrectly equals 60 total questions, so answer choice (D) is incorrect.
- 15.** The pattern repeats every 4 shapes. This means the 4th shape (which is a circle with an x) is the same as the 8th shape, the 12th shape, the 16th shape, the 20th shape, the 24th shape and so on. If the 24th shape is a circle with an x, we can use the pattern to find the next three shapes. The 25th shape is an upside down triangle, the 26th shape is a cross, and the 27th shape is a square. **Answer choice (C) is the correct answer.**
- 16.** The perimeter of any shape is equal to the sum of all the side lengths. Since each triangle is equilateral, each side is the same length. We know the perimeter of each triangle is 27, so to find the side length divide 27 by 3 which equals 9. If we count how many sides of the triangles form the perimeter of the figure, we can see that it is 4 sides (the two sides that are touching do not count), so to find the perimeter multiply 9 times 4 which equals 36 inches. **Answer choice (B) is the correct answer.**
- 17.** The length of PR equals the lengths of PQ plus the length of QR, so the length of PR equals $a + b$. **Answer choice (A) is the correct answer.**

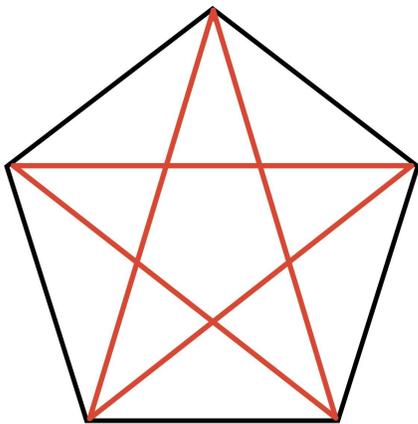
18. For this problem, convert all the answer choices to decimals by dividing the numerator by the denominators. $3/10$ becomes 0.3, $3/5$ becomes 0.6, $1/4$ becomes 0.25, and $1/3$ becomes 0.3 repeating. **The only answer choice that is between 0.3 and 0.5 is 0.3 repeating, so answer choice (D) is the correct answer.**
19. The average of two numbers is the number that is directly in the *middle* of the two numbers. Therefore, the average of P and Q is in the *middle* of P and Q. This means that the average is 2 spaces to the right of P or 1 space to the left of 7. Now, we can find the distance between each space by knowing that the difference between 16 and 7 is 9, and there are 3 spaces in between 7 and 16. 9 divided by 3 equals 3 , so the number line counts by 3 . The average of P and Q is one space to the left of 7, so we have to go down 3 from 7 which equals 4 . **Answer choice (A) is the correct answer.**
20. We want “five less than a number”, which can be written as $x - 5$. This should equal “three more than four times the number”. Let’s start with an expression for “four times the number”, which can be written as $4x$. We want “three more” than this so add 3 to $4x$ to get $4x + 3$. **So the whole equation will look like $x - 5 = 4x + 3$, so answer choice (A) is the correct answer.**
21. To find the value of y , first we need to subtract 6 from both sides. This leaves us with $24 = 3y$. Now, we have to divide both sides by 3 which leaves us with $8 = y$. **Answer choice (B) is the correct answer.**
22. Since Gina and Weston both work at the same rate, they both can make 6 gift bags every 30 minutes, so combined they can make 12 gift bags every 30 minutes. Find how many minutes it takes them to make 1 gift bag by dividing 30 by 12 to get 2.5 . Now, find how many gift bags they can make in 45 minutes by dividing 45 by 2.5 to get 18 . **Answer choice (D) is the correct answer.**
23. The perimeter of a triangle is equal to the sum of its side lengths. To find the length of the third side of the triangle, subtract the other two sides from the perimeter: $36 - 12 - 9 = 15$ m. **Answer choice (A) is the correct answer.**
24. The expression in the problem is 8 times 12 , so we are looking for an answer choice that requires multiplication. Answer choice (A) requires subtraction, because we want to determine how much money is left from $\$96$ after spending 8 , so answer choice (A) is incorrect. **Answer choice (B) is the correct answer because we want to find out how much 8 shirts that are $\$12$ each cost in total, so we multiply 8 times 12 to get $\$96$.** Answer choice (C) requires addition, because we want to find out how much money he/she and his/her friend have altogether, so answer choice (C) is incorrect. Answer choice (D) requires division, because we want to split or divide $\$96$ into 20 piles, so answer choice (D) is incorrect.
25. For this problem notice that the shaded region forms a trapezoid. To find the area of a trapezoid, add the bases together and divide by two. Then multiply the result by the height. The bases are 8 units and 4 units, so 8 plus 4 equals 12 and 12 divided by 2 equals 6 . The height of the trapezoid is 3 units, so 6 times 3 equals 18 square units. **Answer choice (C) is the correct answer.** You can also

break up the trapezoid into two right triangles and a rectangle and find the sum of the areas of the three shapes.

26. The part of the circle that represents May looks like it is approximately half of $\frac{1}{4}$, or $\frac{1}{8}$ of the circle. **Answer choice (A) is the correct answer.**

27. First, find out how many cookies he gave to his friends by multiplying 5 friends times 6 cookies each to get 30 cookies. Next, add the 3 leftover cookies to the 30 he gave to his friends to get 33 cookies total. **Answer choice (C) is the correct answer.**

28. **Answer choice (B) is the correct answer.** See picture below:



29. If the total area of all the faces of the cube is 24 sq in, we need to find the area of one face of the cube. A cube has 6 identical faces, so to find the area of one face, divide the total area of all the faces by 6: $24 \div 6 = 4$ sq in. Now that we have the area of one face of the cube, we need to find a number that when squared (multiplied by itself) is 4. 2 squared or $2 \cdot 2 = 4$, so the side length of the cube is 2 in. **answer choice (A) is the correct answer.**

30. Using the rule, find x . Plug in 6 for the input (square) and x for the output (triangle) to get $6 = (x + 4)/2$. Solve this equation to get $x = 8$. Using the rule, find y next. Plug in y for the input (square) and 16 for the output (triangle) to get $y = (16 + 4)/2$. Simplify this equation to get $y = 10$. Now find $x + y$ by adding $8 + 10$ which equals 18. **Answer choice (B) is the correct answer.**

31. First, change 0.02 into a fraction. To change a decimal into a fraction, think about how you would read the decimal out loud. 0.02 is read as “2 hundredths.” As a fraction, this is $\frac{2}{100}$. If $\frac{2}{100}$ is equal to $\frac{x}{100}$, then x equals 2. **Answer choice (C) is the correct answer.**

32. Check each answer choice and see which one works. A rectangle has 2 sets of congruent sides. For answer choice (A), the perimeter would be equal to $6 + 6 + 8 + 8$ which equals 28 cm, so answer

choice (A) is incorrect. For answer choice (B), the perimeter would be $20 + 20 + 28 + 28$ which equals 96 cm, so answer choice (B) is incorrect. For answer choice (C), the perimeter would be $9 + 9 + 16 + 16$ which equals 50 cm, so answer choice (C) is incorrect. **For answer choice (D) the perimeter would be $13 + 13 + 11 + 11$ which equals 48 cm, so answer choice (D) is the correct answer.**

- 33.** To estimate this problem, round each number. Round 97 to 100, round 43 to 40, and round 19 to 20. Now multiply 97 and 40 and you get 3,880. Finally, divide 3,880 by 20 and you get 194. **Since 194 is in between 150 and 200, answer choice (C) is the correct answer.**
- 34.** We are looking for which statement is TRUE. Answer choice (A) is incorrect because John worked 25 hours and Mark worked 2 hours. Answer choice (B) is incorrect because the mode is the number that appears the most and that is 25. Answer choice (C) is incorrect because the range is the largest number minus the smallest number, so the range of the data is 15 hours and Lester worked 15 hours. **Answer choice (D) is the correct answer because the mean is all the numbers added up and then divided by how many numbers you have, so the mean is 23 hours.**
- 35.** The side length of the larger square is 8 ft, so the area of the larger square is 64 sq ft. Find the area of the smaller square by subtracting the area of the shaded region from the area of the larger square: $64 \text{ sq ft} - 28 \text{ sq ft} = 36 \text{ sq ft}$. Since the area of the smaller square is 36 sq ft, we need to think of a number that equals 36 when multiplied by itself (or the square root of 36). $6 \cdot 6 = 36$, so the side length is 6 ft. **Answer choice (B) is the correct answer.**
- 36.** From November to December Angela got 1 minute faster, from December to January Angela got 2 minutes faster, from January to February Angela got 1 minute faster, from February to March Angela got 2 minutes faster, and from March to April Angela got 1 minute faster. The pattern is one month Angela gets 1 minute faster and the next month she gets 2 minutes faster, then it repeats. So from April to May Angela will get 2 minutes faster and her time will be 36 min, from May to June she will get 1 minute faster and her time will be 35 min, and from June to July she will get 2 minutes faster and her time will be 33 min. **Answer choice (A) is the correct answer.**
- 37.** To estimate 189 times 4.3, round each number. 189 gets rounded up to 200 and 4.3 gets rounded down to 4, so we have 200 times 4. **Answer choice (C) is the correct answer.**
- 38.** If we complete the diagrams ourselves and make a 4 by 4 square, we see that we need 8 squares: 1 row of 4 on the bottom, 1 row of 3 above it on the right, and one row of one above that all the way to the right. **Answer choice (D) is the only choice with 8 squares, so answer choice (D) is the correct answer.**
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Reading Comprehension

Passage 1

1. The author wrote this passage to educate the reader on glaciers and inform them that they are melting due to global warming. While the author does say that glaciers are beautiful, that is not the main focus of the passage or why he/she wrote it, so answer choice (B) is incorrect. While the author does mention that new ways of reducing the need for oil and coal are developed every year, he doesn't go into detail about how we can preserve glaciers, so answer choice (C) is incorrect. While the author does describe how glaciers are formed, that is only a small part of the passage and not the reason he/she wrote it, so answer choice (D) is incorrect. **The author wrote the passage to show that glaciers are at risk of melting due to rising temperatures, so answer choice (A) is the correct answer.**
2. Lines 25-26 state “Recently, though, the situation has become dire for the world’s glaciers.” The paragraph goes on to say that glaciers in some parts of the world have lost large amounts of their total mass and in others glaciers are receding by several miles. The author is painting a picture of a world where, if things don’t change, many of the world's glaciers could be gone in the not so distant future. **When the author says the situation is dire, he/she means that the glaciers are melting at an alarmingly fast rate, so answer choice (C) is the correct answer.**
3. The third paragraph talks about the nine states in the US where glaciers exist but that Alaska is the only state that can be considered the glacier king. In reference to Alaska, lines 20-24 state “Of the roughly 35,000 glaciers in the United States, over 75% of them exist here; this makes up over 5% of the state’s total landmass.” **If over 75% of the United State’s glaciers are in Alaska, that means that less than 25% are in states other than Alaska ($100\% - 75\% = 25\%$), so answer choice (B) is the correct answer.**
4. Lines 34-36 state “The major cause of this meltdown is global climate change, caused primarily by human activity.”, so answer choice (A) is incorrect because while climate change is caused primarily by humans, it is not 100% caused by humans. While the author does mention that driving cars is contributing to climate change, he/she does not imply that humans should stop driving cars altogether, so answer choice (B) is incorrect. The author does talk about renewable energy and how it could help fight climate change, but this is in the 6th paragraph, so answer choice (C) is incorrect. The 5th paragraph says that major contributors to climate change are processes that burn fossil fuels - like oil, coal and natural gas. **We can infer then that since humans discovered these fossil fuels, that climate change has become worse, so answer choice (D) is the correct answer.**
5. The first line of the last paragraph states “Hope isn’t lost, though.” This implies that the author is hopeful and optimistic for the future of the world and climate change. This tone is further supported by the author talking about new technologies that will hopefully be enough to save the glaciers before it is too late. **The overall tone of the whole paragraph is optimistic, so answer choice (C) is the correct answer.**

Passage 2

6. The main theme of the passage was Juan overcoming his anxiety about playing piano in a judged competition. The passage talks about the weeks leading up to the competition, the actual competition itself, and the immediate aftermath of Juan playing. While the passage does show that Juan’s family loves and supports him, this was not the main theme of the passage, so answer choice (A) is incorrect. Nothing in the passage would suggest that Juan was not as good at piano as he thought he was, so answer choice (B) is incorrect. While Juan was definitely nervous for the competition, the passage doesn’t imply that he struggled with the pressure put on him by his family, so answer choice (D) is incorrect. **The best way to summarize the passage is Juan confronts and overcomes his fear and plays the piano in front of a crowd in a competition, so answer choice (C) is the correct answer.**
7. Lines 23-25 state “Finally, competition Saturday had arrived. Juan was sweating even more than normal, and now he was wearing a suit.” From the context, we can infer that Juan normally sweats when he gets nervous but that this time it was even more than usually. On top of that he is wearing a suit, which has many layers including a jacket. If someone was already sweating and then you add on multiple layers of clothing it would make sense that they would be warmer and sweat even more, so the line “and now he was wearing a suit” emphasizes just how much Juan was sweating. **Answer choice (B) is the correct answer.**
8. In the beginning of the passage we learn that Juan’s parents were very insistent on Juan playing and practicing the piano. Lines 5-8 state “His parents were relentless. He practiced three times a week with his teacher, and he was expected to practice for at least 45 minutes every other day.” Clearly his parents were pretty strict about his piano lessons. We see later on in the passage however, that his parents are also quite supportive and loving. They were there for him at his competition and told him he played beautifully after his performance. They are not impossible to please because they were pleased with how Juan played, so answer choice (B) is incorrect. They also would not be described as carefree, because they did care about his practicing and lessons, so answer choice (C) is incorrect. Nothing in the passage suggests that Juan’s parents are critical of him or solely focused on him winning, so answer choice (D) is incorrect. **Overall Juan’s parents are strict with how they approach his piano lessons but they love him and are proud after he plays, so answer choice (A) is the correct answer.**
9. Lines 48-50 state “After the rest of the musicians had played their pieces, he met his parents in the lobby for the scoring intermission.” Suspense means a feeling of excitement or anxiousness, so the sentence would be saying he met his parents for the scoring anxiousness. That does not really fit in the sentence, so answer choice (A) is incorrect. Answer choice (B) is incorrect because we know the competition was the piano playing not the scoring. Answer choice (C) is incorrect because later in the paragraph, Juan’s parents ask him if he thinks he will place in the competition, so we know that the scores have not been revealed yet. **Having a break before the scores are revealed makes sense because the judges need to make their decisions and that would take a little time, so answer choice (D) is the correct answer.**

10. In the last paragraph, when Juan's parents ask him if he thinks he will palace in the competition, Juan responds “I think that I’ll be happy either way.” Being happy either way does not imply disappointment or insecurity, so answer choice (A) is incorrect. Similarly it does not imply that Juan was scared, so answer choice (C) is incorrect. While Juan does seem calm, there isn’t anything that would suggest he is uninterested in the score, so answer choice (D) is incorrect. **Overall Juan seems relaxed and at peace or content, which makes sense because he just finished doing something he was very nervous about and he did a good job in the eyes of the people that matter most, so answer choice (B) is the correct answer.**

Passage 3

11. The primary purpose of the passage is to tell the story of a young girl, Hui, and her first experience flying on a plane. While the passage does mention that Hui is nervous about flying because it is her first time, the passage isn’t concerned with the fear of flying as a whole, so answer choice (A) is incorrect. The passage does say that Hui’s parents are divorced, but it doesn’t really explain how she or other children feel about divorce, so answer choice (C) is incorrect. While Hui does show bravery in flying for the first time alone, the passage is not focused on this, so answer choice (D) is incorrect. **The main purpose of the passage is to show how Hui was feeling nervous and uncertain about her first time flying, so answer choice (B) is the correct answer.**
12. The passage does not say that it was Hui’s first time in Vancouver or that she hadn’t seen her father since the divorce, so answer choices (B) and (C) are incorrect. While Hui might miss her mom, the passage doesn’t specifically say this, and it is also not necessarily a reason to be nervous, so answer choice (D) is incorrect. We know this is Hui’s first time flying on a plane from lines 3-4, which states “She had never been to an airport before, let alone been on a flight.” and lines 11-13, which state “Because she was not 16, Canadian regulations meant that she could fly on her own, even if it was her first time.” **It makes sense then that that is the reason she is nervous because doing something new very often makes people nervous, so answer choice (A) is the correct answer.**
13. Lines 29-30 state “‘You’re good!’ barked the security attendant.” We can see that the word barked is describing the way in which the security attendant spoke, so we are looking for an answer that describes speaking. Answer choice (A) does not refer to how someone spoke, so we can cross it out. If we think about the word barked, what image comes to mind? Typically the word barked is associated with a dog and a barking dog is usually very loud. **We can infer then that the word barked is used to convey someone speaking loudly or yelling, so answer choice (D) is the correct answer.**
14. The fifth paragraph in the passage describes Hui’s experience waiting to board her plane. Hui is feeling anxious and time feels like it is passing slowly. Lines 36-37 state “*Last call for Seattle*, the loudspeakers chimed above her.” Last call means exactly what it says, that this is the last chance to get on the plane. **We can assume that in her nervousness she may have missed the first couple of**

calls to get on the plane and got on just in time, probably as one of the last passengers, so answer choice (D) is the correct answer.

15. Lines 11-13, which state “Because she was not 16, Canadian regulations meant that she could fly on her own, even if it was her first time.” and lines 16-18 state “The trip from Vancouver was expected to take 65 minutes.” **Between those two lines, we can infer that Hui’s mother lives in Vancouver Canada, so answer choice (C) is the correct answer.**

Passage 4

16. The author's purpose in writing this passage is to educate the reader on the growing trend of students overworking and overstressing themselves while striving to be as productive as possible, and the importance of finding ways to destress. While the author does mention how overworking yourself can cause stress, he/she does not go into the science of what causes stress, so answer choice (A) is incorrect. The author talks about how stress can cause difficulty concentrating, so answer choice (B) is incorrect. While the author goes over certain health concerns that can arise from stress, he/she is more focused on over studying versus studying, so answer choice (C) is incorrect. **The purpose of the passage is to highlight how overworking can lead to stress and negative side effects for students, and the importance of finding ways to reduce that stress, so answer choice (D) is the correct answer.**
17. The first paragraph in the passage talks about how students today are under a lot of stress to perform academically. Lines 6-10 state “In this generation, students have more responsibility and higher academic standards to live up to, which ultimately leads to many students feeling overwhelmed by the pressure.” The author isn’t saying that school was not stressful for students in past generations, just that it is more stressful for students in today’s generation. **This means that over time, school has become more stressful for students, so answer choice (A) is the correct answer.**
18. The last paragraph in the passage talks about ways that students can reduce the stress they are feeling caused by overworking. Lines 41-44 state “This can easily be done by reading a good book, spending a few hours off the Internet, or by working out.” **Working out is the same thing as exercising, so answer choice (D) is the correct answer.**
19. In line 29 the word “detrimental” is used to describe the side effects students can suffer as a result of overworking themselves. The paragraph goes on to list many negative effects such as headaches, stomach aches, and sleep issues. None of these issues are necessarily fatal, so answer choice (A) is incorrect. These issues should also not be common, so answer choice (C) is incorrect. Obviously headaches and illnesses are not beneficial, so answer choice (D) is incorrect. **The best way to describe these side effects is harmful, so answer choice (B) is the correct answer.**
20. Lines 15-16 state “In an age where our culture praises over-working and all-nighters,…” **The term all-nighters refers to the practice of staying up all night and not sleeping in order to study for a test or complete a task, so answer choice (A) is the correct answer.**

Passage 5

21. The main purpose of this passage is to educate the reader about Arbor day. The passage talks about the day it is celebrated in different parts of the world, as well as its origins. While the author probably agrees that trees are important to the environment, that is not the main point of this passage, so answer choice (A) is incorrect. While the passage does point out some benefits of Arbor day, it doesn't argue that Arbor Day is a necessity, so answer choice (B) is incorrect. While the passage does talk about how many trees have been planted since the first American Arbor Day, it does not marvel over this fact, so answer choice (D) is incorrect. **The primary purpose of this passage is to discuss the history of the holiday Arbor Day, so answer choice (C) is the correct answer.**
22. Lines 9-10 state "The origins of Arbor Day stretch back much earlier than people may imagine." The paragraph goes on to talk about how the first documented arbor plantation festival was held in a Spanish village in 1594 and how several hundred years later the first modern Arbor Day was launched in a different Spanish village. **The paragraph is describing how Arbor Day came to be or its beginnings, so answer choice (A) is the correct answer.**
23. As previously stated, the second paragraph goes over the origins or beginnings of Arbor Day. The paragraph talks about how the first recorded arbor festival was in a Spanish village and the first modern Arbor Day was in another Spanish village. The passage would not include this paragraph if all of this was common knowledge that everyone knew about or else it would be pointless. **We can assume that this was included because some people don't know the full history of Arbor Day, so answer choice (C) is the correct answer.**
24. Lines 40-43 state "Interestingly, the date varies from place to place. This is due to differences in climate and ideal growing season." This is the only mention of why Arbor Day is celebrated on different dates, so we can infer that Arbor day is celebrated later in Alaska because Alaska has a different growing season. **Answer choice (D) is the correct answer.**
25. Lines 17-19 state "The American tradition of Arbor Day was started in Nebraska by a mad named J. Sterling Morton.", so answer choice (B) is the correct answer.
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Mathematics Achievement

1. To change an improper fraction to a mixed number, first divide the numerator by the denominator, then write down the whole number you get and put the remainder over the original denominator. For this problem, $29/7$ equals 4 with a remainder of 1 so the mixed number would be $4 \frac{1}{7}$. **Answer choice (C) is the correct answer.**

2. To find the greatest common factor of 16 and 24, find the factors of 16 and 24. Then find the *largest* factor that they have in common. The factors of 16 are 1, 2, 4, 8, and 16. The factors of 24 are 1, 2, 3, 4, 6, 8, 12, and 24. **The largest factor in common is 8, so answer choice (B) is the correct answer.**
3. 250 people took the survey and 48 people chose pie. The problem says approximately what fraction of people chose pie, so we can round 48 to 50 to make it easier. **50/250 simplifies to 1/5, so answer choice (C) is the correct answer.**
4. To estimate 246 times 52, round both numbers. 246 rounds up to 250 and 52 rounds down to 50. **This gives us 250 times 50, so answer choice (D) is the correct answer.**
5. An *isosceles triangle* is a triangle with exactly 2 equal sides. The interior angles opposite those sides are also equal. An *obtuse triangle* is a triangle that has one obtuse (greater than 90 degrees) interior angle. Since the triangle pictured has 2 equal interior angles and one obtuse interior angle, we know it is an obtuse isosceles triangle. **Answer choice (A) is the correct answer.**
6. If you plot and connect the four points on a coordinate grid, you should get a four sided shape with a horizontal line on the top, a horizontal line on the bottom, a vertical line on the right, and a slanted line on the left. This forms a trapezoid which is a four sided shape with only one pair of parallel lines (the top and bottom in this case). **Answer choice (D) is the correct answer.**
7. First, count all the shapes in the figure to get 10 shapes total. Next, count the circles to get 4 circles. **This means the fraction of shapes that are circles is 4/10 which simplifies to 2/5, so answer choice (B) is the correct answer.**
8. 738 is divisible by 9 without a remainder because the sum of the digits, $7 + 3 + 8$, equals 18 which is divisible by 9. **Answer choice (D) is the correct answer.**
9. When the input is 2, the output is 2 times the input. When the input is 4, the output is 3 times the input. When the input is 6, the output is 4 times the input. This pattern continues, so when the input goes up by 2, the multiplier to find the output is one higher than the previous row. If the input is 12, the output is 7 times the input. Therefore, if the input is 14, the output is 8 times the input. If the input is 16, the output is 9 times the input. If the input is 18, the output is 10 times the input, so the output is 180. **Answer choice (D) is the correct answer.**
10. To find the percent of adults in the town who have no children, subtract the percent of adults who have 1 child and the percent of adults who have 2 children from 100%. **$100\% - 38\% - 53\% = 9\%$, so answer choice (A) is the correct answer.**
11. From 100 to 80 we subtracted 20, from 80 to 62 we subtracted 18, from 62 to 46 we subtracted 16 and from 46 to 32 we subtracted 14. The pattern is subtracting 2 less than we did from the previous

number. **The next number in the sequence would be 32 minus 12 which equals 20, so answer choice (C) is the correct answer.**

12. The formula for perimeter of a rectangle is $P = 2l + 2w$. Since we know the perimeter is 30, we can put that in the equation to get $30 = 2l + 2w$. To find the length of the rectangle, we want to isolate l on one side of the equation. First, subtract $2w$ from each side which gives you $30 - 2w = 2l$. Next, divide both sides by 2 which gives you $15 - w = l$. **Flipping this equation gives you $l = 15 - w$, so answer choice (A) is the correct answer.**
13. First, divide both sides by 4 which give you $(\text{square} - 3) = 7$. **Next, add 3 to both sides which gives you square = 10, so answer choice (D) is the correct answer.**
14. The difference between 24 and 20 is 4, and there are 4 spaces in between 20 and 24. To find the distance between each space, divide 4 by 4 to get 1. This means that the number line counts by 1. Since A is two spaces before 20, we can go down by 1 twice, so we go down 2. 20 minus 2 equals 18, so A is at 18. **Answer choice (B) is the correct answer.**
15. We know there are a total of 1,000 residents in Pleasantville. According to the chart, 250 of them are between the ages of 20 and 29. To find the probability, divide the amount of residents between ages 20 and 29 by the total number of residents: $250/1000$ simplifies to $1/4$. **Answer choice (D) is the correct answer.**
16. The associative property states that the way the numbers are grouped (put into parenthesis) in an addition or multiplication problem does not change the answer. **The given equation shows that grouping the circle and the triangle is the same as grouping the square and the circle when completing the addition problem, so answer choice (A) is the correct answer.**
17. The 8 is four places to the left of the decimal. This is the thousands place, so it represents “eight thousand”, or 8,000. **Answer choice (C) is the correct answer.**
18. When approaching this problem, first determine which fractions are less than a half, which fractions are greater than a half, and which fractions, if any, equal a half. Answer choices (B) and (D) are less than a half, and answer choices (A) and (C) are greater than a half. Since we are looking for the *greatest* fraction, we can cross out answer choices (B) and (D). To compare $7/9$ and $8/11$, we must find the lowest common multiple of their denominators. The LCM of 9 and 11 is 99. Now, we have to change each fraction so that it has 99 as its denominator. Change $7/9$ to $77/99$ by multiplying the numerator and the denominator by 11 and change $8/11$ to $72/99$ by multiplying the numerator and denominator by 9. **$77/99$ is greater than $72/99$ so answer choice (A) is the correct answer.**
19. PEMDAS tells us to start with what’s inside the parentheses first, so we do 5 minus 3 which equals 2. Next, from left to right we have to do multiplication and division. Multiply 2 times 2 to get 4 and divide 8 by 2 to get 4. We are left with $10 - 4 + 4$ which equals 10. **Answer choice (B) is the correct answer.**

20. There are 10 millimeters in 1 centimeter. To find the number of millimeters in 40 centimeters, multiply 40 times 10 which equals 400 millimeters. **Answer choice (C) is the correct answer.**
21. First, we need to change Nick’s height from a fraction to a decimal. To change a fraction into a decimal, divide the numerator by the denominator. Since there is a whole number as well, just divide the fraction and add it back to the whole number. $\frac{3}{4}$ equals 0.75 and 5 plus 0.75 equals 5.75. To find the difference between Nick and Bridget’s height, subtract Bridget’s height from Nick’s: $5.75 - 4.9 = 0.85$. **Answer choice (B) is the correct answer.**
22. When adding decimals, line up the decimal point and add down like you would with whole numbers. **If you do this, you’ll get answer choice (C) as the correct answer.** To see a step by step solution of this problem, follow this link and type in the problem: [how to solve operations with decimals](#)
23. **The correct answer is (A).** When performing long division, place the first number underneath the division box and the second number outside of the division box. To see a step by step solution of this problem, follow this link and type in the problem: [how to perform long division](#)
24. First, change all of the fractions to have a common denominator by finding the LCM of 5, and 10 which is 10. The problem now reads as $7\frac{4}{10} - 4\frac{7}{10}$. To subtract $4\frac{7}{10}$ from $7\frac{4}{10}$, we need to borrow from the 7 since $\frac{7}{10}$ is larger than $\frac{4}{10}$. Instead of $7\frac{4}{10}$, we have $6\frac{14}{10}$. Now subtract $4\frac{7}{10}$ from $6\frac{14}{10}$ to get $2\frac{7}{10}$. **Answer choice (B) is the correct answer.**
25. The formula for the area of a rectangle is $A = lw$. We know the width of the rectangle is 8 inches and the length is twice the width, so the length of the rectangle is 8 times 2 which equals 16 inches. Now we have to plug in our length and width values to find the area. $A = 16 \cdot 8$, so $A = 128$ sq in. **Answer choice (D) is the correct answer.**
26. To find the perimeter, add up all of the side lengths: $24\text{ m} + 30\text{ m} + 18\text{ m} = 72\text{ m}$. **Answer choice (B) is the correct answer.**
27. A line of symmetry is a line over which a shape can be folded such that all of the lines line up perfectly. **Answer choice (C) is the correct answer because both shapes have exactly 1 line of symmetry (vertically through the middle for the first shape and horizontally through the middle for the second shape).**
28. First, find out how many sheets of colored paper Amber has in total by multiplying 20 packs times 12 sheets per pack to get 240 sheets total. Next, find out how many sheets each student will get by dividing 240 sheets by 3 students to get 8 sheets per student. **Answer choice (B) is the correct answer.**

- 29.** To find the median, line the numbers up in order from least to greatest and the median is the middle number: 5, 10, 10, 15, 25, 30, 40. We have seven numbers so the middle number is the fourth number, which is 15. **Answer choice (B) is the correct answer.**
- 30.** The problem is asking for the *difference* so we know we are going to subtract. According to the table, on Day 2, the height of Plant 1 was 8 cm and the height of Plant 3 was 4 cm. Find the difference by subtracting 4 cm from 8 cm to get 4 cm. **Answer choice (A) is the correct answer.**