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Topic Break Down

Topic	No. of Questions
Topic 1, Verbal Reasoning	120
Topic 2, Quantitative Reasoning	63
Topic 3, Reading Comprehension	98
Topic 4, Mathematics Achievement	170
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Total	454

QUESTION NO: 1

Select the word that is most nearly the same in meaning as the word in capital letters.

RIGOROUS

A. abundant

B. insignificant

C. thorough

D. passing

ANSWER: C

Explanation:

thorough is the best synonym for *rigorous* in this context. A rigorous process, investigation, course of study, or review is carried out with great care, close attention to detail, and a high standard of completeness. Similarly, something thorough is comprehensive and carefully performed, without overlooking important details. For example, a rigorous scientific study uses systematic, careful methods, while a thorough scientific study examines the subject completely and attentively. These meanings overlap in the idea of careful, exacting work rather than superficial treatment. Dictionary definitions support this connection: Merriam-Webster defines *rigorous* in part as “marked by extremes of strictness, severity, or cruelty” and also as “scrupulously accurate”; its definitions of *thorough* include “carried through to completion” and “marked by full detail.” In an ISEE synonym question, the goal is to select the choice with the closest common meaning, and **thorough** most directly captures the careful and comprehensive sense of *rigorous*. See Merriam-Webster: rigorous and Merriam-Webster: thorough.

QUESTION NO: 2

Select the word that best completes the sentence.

In a victory for police and law enforcement the Supreme Court _____ a lower court's ruling, which allowed officers to take DNA samples from arrested suspects.

A. proposed

B. dismissed

C. upheld

D. criticized

ANSWER: C

Explanation:

The best completion is **“upheld”** because to uphold a ruling means that a higher court affirms it and leaves its legal effect in place. The sentence says that the outcome was a victory for police and law enforcement and then describes a lower-court ruling that permitted officers to collect DNA samples from arrested suspects. “Upheld” precisely conveys that the Supreme Court agreed with and sustained that permission, allowing the ruling to remain operative. The word also fits the standard vocabulary used when appellate courts review decisions made by lower courts: a court may uphold a judgment when it finds the judgment legally valid. In the related constitutional context, the Supreme Court has held that collecting and analyzing a DNA swab as part of a routine booking procedure for certain serious arrests can be a reasonable search under the Fourth Amendment. That legal usage reinforces why “upheld” is the appropriate verb for a Supreme Court decision that preserves an authorization for DNA collection. See the Supreme Court opinion in Maryland v. King and Cornell Law School’s definition of uphold.

QUESTION NO: 3

Select the word that best completes the sentence.

With his _____ eye for detail, the appraiser was easily able to spot that the piece was a fraud and not a real Picasso.

A. inattentive

B. discerning

C. superficial

D. neglectful

ANSWER: B

Explanation:

The correct completion is **discerning**. A discerning person shows sound judgment and has the ability to notice or understand subtle differences, especially when evaluating quality or authenticity. In this sentence, the appraiser identifies that an artwork presented as a Picasso is fraudulent. That task requires close observation, expertise, and the capacity to recognize small details that distinguish a genuine work from an imitation. The phrase “a discerning eye for detail” is also a natural and established expression for someone who is perceptive and able to make careful, informed judgments about what they see. The surrounding context—an appraiser quickly detecting a forgery—therefore directly supports the meaning of discerning as perceptive and discriminating. Merriam-Webster defines “discerning” as showing insight and understanding, while Cambridge Dictionary describes it as able to make good judgments about what is true or of high quality. These meanings fit the appraiser’s specialized evaluation of the painting. See Merriam-Webster: discerning and Cambridge Dictionary: discerning.

QUESTION NO: 4

Of the 25% of the customers at an ice cream shop who order soft-serve ice cream, 2/3 order sprinkles as well.

What fraction of the shop's customers order soft-serve ice cream with sprinkles?

A. 4/25

B. 1/6

C. 1/5

D. 1/3

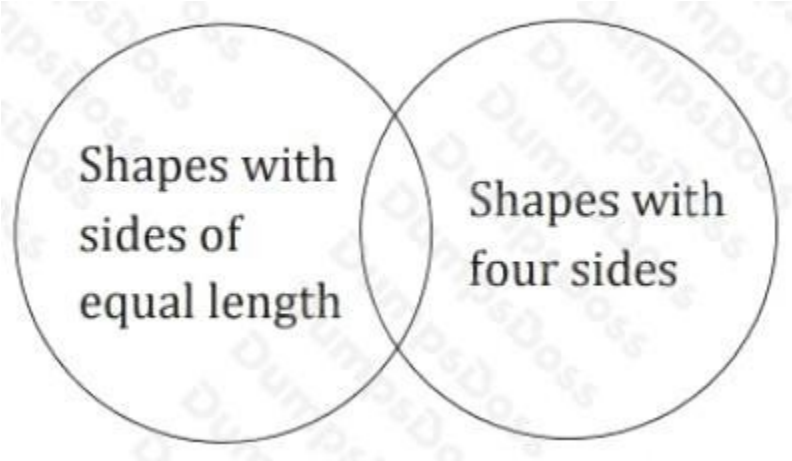
ANSWER: B

Explanation:

The fraction of all customers who order soft-serve ice cream with sprinkles is **1/6**. First, convert 25% to a fraction: 25% means 25 out of 100, which simplifies to 1/4. Thus, 1/4 of the shop’s customers order soft-serve ice cream. The question then states that 2/3 of that soft-serve group also orders sprinkles. To find a fraction of a fraction, multiply the two fractions: 1/4 × 2/3 = 2/12. Simplifying 2/12 by dividing both numerator and denominator by 2 gives 1/6. For example, if the shop had 12 customers, 3 customers would order soft-serve ice cream because 1/4 of 12 is 3. Of those 3 soft-serve customers, 2/3 means 2 customers order sprinkles. Therefore, 2 out of 12 total customers order soft-serve with sprinkles, and 2/12 simplifies to 1/6. This use of multiplication represents finding a specified part of an already-defined group. See Khan Academy’s multiplying fractions lesson and Math is Fun’s guide to multiplying fractions.

QUESTION NO: 5

Use the Venn diagram to answer the question.



Which of the following shapes could be found in the center of the Venn diagram?

A. equilateral triangle

B. kite

C. parallelogram

D. square

ANSWER: D

Explanation:

square is the shape that could be placed in the center because it has all of the relevant properties represented by the overlapping sets. A square is a quadrilateral with four congruent sides and four right angles. It also has two pairs of opposite sides that are parallel, so it belongs to the parallelogram family as well. These properties allow a square to satisfy several classifications at the same time, which is exactly what the central overlap of a Venn diagram represents: members that meet every set's condition simultaneously.

In particular, the defining geometry of a square includes equal side lengths, perpendicular adjacent sides, and parallel opposite sides. These facts make it a highly specific quadrilateral and enable it to appear in an intersection involving common shape attributes. For a reference on the defining properties of squares, see Encyclopaedia Britannica's square entry and the Math Is Fun quadrilaterals guide.

QUESTION NO: 6

Select the word that best completes the sentence.

In _____ of the coming tourist season, Percy stocked his shop's shelves with souvenirs and trinkets of the sort that tourists generally buy.

A. anticipation

B. regulation

C. peril

D. consternation

ANSWER: A

Explanation:

anticipation correctly completes the sentence because the phrase "in anticipation of" means in expectation of, or as preparation for, something that is expected to happen. Percy expects the tourist season to arrive and prepares ahead of time

by filling the shop with souvenirs and trinkets that visitors are likely to purchase. The sentence describes a forward-looking business decision: he is acting before the season begins because he foresees increased demand from tourists.

This is also a standard English collocation. “In anticipation of the coming tourist season” naturally expresses that Percy is preparing for a predicted future event. The noun *anticipation* can describe both the expectation of an event and the act of preparing for it, and the context clearly uses that preparation-related sense. Merriam-Webster defines anticipation as “a prior action that takes into account or forestalls a later action,” which closely matches stocking merchandise before customers arrive. See Merriam-Webster’s definition of anticipation and Cambridge Dictionary’s entry for anticipation.

QUESTION NO: 7

Select the word that best completes the sentence.

Mark's lack of _____ was demonstrated by his inability to persuade even a single coworker to support his plan for the project.

A. influence

B. courage

C. adventure

D. derision

ANSWER: A

Explanation:

The correct completion is “influence.” In this context, influence means the ability or power to affect other people’s opinions, decisions, or actions. The sentence gives direct evidence of Mark’s lack of this ability: despite presenting a project plan, he could not persuade even one coworker to support it. Persuading colleagues to endorse an idea is a clear example of exercising influence in a workplace setting.

The phrasing also fits naturally and precisely: a person may have influence over coworkers, leaders, or a group when their ideas, judgment, relationships, or communication can shape others’ choices. Mark’s inability to gain any support demonstrates that he did not have sufficient influence with the people whose backing he needed. Merriam-Webster defines influence as “the power or capacity of causing an effect in indirect or intangible ways,” a definition that matches the social persuasion described here. Collins Dictionary likewise describes influence as the power to make other people agree with or do what one wants. See Merriam-Webster: influence and Collins Dictionary: influence.

QUESTION NO: 8

Select the word that best completes the sentence.

After failing an important biology test, Arthur worked to become a more _____ student by studying more frequently and more carefully.

A. unscrupulous

B. conscientious

C. gracious

D. baleful

ANSWER: B

Explanation:

The correct completion is **conscientious**. A conscientious person is careful, thorough, diligent, and attentive to responsibilities. The sentence says that Arthur responded to a disappointing test result by studying both more often and

more carefully. Those actions show greater diligence and a stronger commitment to doing his academic work responsibly, which directly matches the meaning of conscientious.

In this context, the word describes an enduring approach to schoolwork rather than simply a temporary feeling. By changing his study habits, Arthur is trying to become the kind of student who consistently takes care and puts sustained effort into preparation. This is a common use of conscientious: it can describe students, employees, and other people who are dependable and painstaking in completing tasks.

For dictionary definitions and usage, see Merriam-Webster's definition of "conscientious" and Cambridge Dictionary's entry for "conscientious".

QUESTION NO: 9

In Mr. Cluff's class of 30 students, 3 students are allergic to bees.

If a bee flies into the classroom and stings a student at random, what is the probability that the student is allergic to the bee?

A. 1/100

B. 1/10

C. 1/3

D. 3

ANSWER: B

Explanation:

The correct answer is **1/10**. Probability compares the number of favorable outcomes with the total number of equally likely outcomes. Here, the bee is assumed to sting one student selected at random from all 30 students in the class. The favorable outcomes are the 3 students who are allergic to bees, because those are the students for whom the stated event occurs.

Therefore, the probability is calculated as 3 divided by 30: 3/30. Simplifying this fraction by dividing both the numerator and denominator by 3 gives 1/10. This means that, under the random-selection assumption, there is a one-in-ten chance that the student stung is allergic to bees. The phrase "at random" is important because it establishes that every student has the same chance of being stung, allowing the class totals to be used directly in the probability calculation. For an overview of theoretical probability as favorable outcomes divided by total possible outcomes, see Khan Academy's theoretical probability guide. The general definition of probability is also summarized by Encyclopaedia Britannica.

QUESTION NO: 10

Select the word that is most nearly the same in meaning as the word in capital letters.

BEDEVIL

A. torment

B. enchant

C. bore

D. scorn

ANSWER: A

Explanation:

torment is the best match for **bedevil**. To bedevil someone is to cause that person persistent trouble, distress, or mental anguish; it can also mean to harass, perplex, or plague them continually. That central idea of ongoing suffering or troublesome interference is captured directly by "torment," which means to cause severe physical or mental suffering. In a

vocabulary question asking for the nearest synonym, the intended relationship is not merely a brief annoyance but repeated, troubling affliction. For example, a difficult problem may bedevil a researcher for years, meaning it persistently troubles and frustrates the researcher; similarly, that problem can be described as tormenting the researcher. Major dictionaries include “to torment” and closely related ideas such as “plague” and “harass” in their definitions of *bedevil*, confirming that “torment” preserves both the intensity and the continuing nature of the word’s meaning. See the definitions from Merriam-Webster and Cambridge Dictionary.

QUESTION NO: 11

Select the word that best completes the sentence.

The commentator's _____ remarks contributed very little to the story and were largely ignored.

A. vapid

B. intriguing

C. inclusive

D. explosive

ANSWER: A

Explanation:

The correct completion is “vapid.” In this context, the sentence emphasizes that the commentator’s remarks “contributed very little” and were “largely ignored.” Those clues indicate comments that lacked substance, interest, or meaningful content. “Vapid” precisely describes speech, writing, or ideas that are dull, empty, and uninteresting, so it naturally conveys why the remarks did not add value to the story or hold the audience’s attention.

This is also a strong grammatical fit: “vapid” is an adjective that directly modifies “remarks,” producing the clear phrase “vapid remarks.” The word’s meaning aligns with standard dictionary definitions. Merriam-Webster defines “vapid” as “lacking flavor, zest, interest, animation, or spirit,” while Cambridge Dictionary describes it as “uninteresting, stupid, or boring.” Both definitions support the idea that the commentator offered bland, insubstantial observations rather than useful or engaging commentary. See Merriam-Webster’s definition of vapid and Cambridge Dictionary’s definition of vapid.

QUESTION NO: 12

What is the sum of 3.14 and 1.6?

A. 3.6

B. 3.74

C. 4.7

D. 4.74

ANSWER: D

Explanation:

The correct answer is **4.74**. To add decimals accurately, write the numbers so their decimal points are aligned. The number 1.6 can be written as 1.60, which makes the place values clear: 3.14 + 1.60. Add the hundredths: 4 hundredths plus 0 hundredths equals 4 hundredths. Add the tenths: 1 tenth plus 6 tenths equals 7 tenths. Then add the whole numbers: 3 plus 1 equals 4. The resulting sum is 4 ones, 7 tenths, and 4 hundredths, or 4.74. Adding a zero to the right of a decimal does not change its value, so 1.6 and 1.60 represent the same quantity. This alignment method helps ensure that ones, tenths, hundredths, and other place values are combined correctly. For additional practice and guidance on adding decimals, see Khan Academy’s adding-decimals lesson and Math Is Fun’s decimals guide.

QUESTION NO: 13

Since prehistoric times, people have grown cotton to make clothing: archaeologists have found pieces of cotton fabric in Mexico and Pakistan dating from as far back as 5000 BC. Not only is cotton one of our most ancient clothing materials, it is also the most commonly used fiber in clothing today. Although many people wear it daily, they may not be aware of the role cotton has played in history.

In the United States, most cotton was produced in the fertile South. Until the end of the 18th century, the US cotton industry was small, yielding only about 900,000 kilograms of cotton in 1791. The industry began to grow tremendously in 1793, when the American Eli Whitney invented the cotton gin. Before the cotton gin, a bale of cotton required over 600 hours of labor to produce. With Whitney's invention, the process took only about 12 hours. With this increase in efficiency, cotton soon became the dominant industry in the South, and by 1801 the United States was producing more than 22 million kilograms of cotton every year.

By 1860, one year before the start of the American Civil War, the Southern States supplied the majority of the world's cotton. The cotton industry brought in huge profits for the plantation owners. However, these profits were accompanied by a substantial growth in the slave industry, since slaves comprised the majority of the workforce on cotton plantations. By 1860, slaves constituted more than 50% of the population of the cotton-producing states of Alabama, Mississippi, and Louisiana. The growth of the slave-based cotton industry contributed in turn to the American Civil War, since the North opposed the use of slave labor, and the South was emboldened by the power of the cotton industry.

During the Civil War, the Southern States attempted a policy called "cotton diplomacy." Most of the cotton produced in the American South was exported to Europe, which was dependent on American raw cotton for its textile industry. The Southern States attempted to use their economic influence to persuade Great Britain to side with them in the Civil War by drastically reducing the amount of cotton they supplied. So strong was their belief that Great Britain would accede to their request that the plantation owners dubbed their crop "King Cotton." Unfortunately for them, the warehouses of Great Britain had already imported and stockpiled a huge surplus of cotton. Cotton diplomacy failed, and neither Great Britain nor any other European power intervened during the Civil War.

The history of cotton is woven together with agricultural slavery, industrial advances, civil war, and foreign diplomacy. It has not only been a fiber of choice in our clothing for thousands of years, but also a significant strand in the fabric of history.

Which best describes the organization of the passage?

A. A subject is introduced, and events are described in chronological order.

B. Each paragraph discusses a different aspect of the same problem.

C. The passage describes a particular historical event and discusses its importance.

D. Questions are posed and then answers are considered.

ANSWER: A

Explanation:

A subject is introduced, and events are described in chronological order. correctly identifies a chronological organizational pattern. In this structure, the author first establishes the central person, topic, or situation so the reader has context. The passage then moves through actions or developments in time sequence, generally from earlier events to later ones. Readers can recognize this pattern by noting time-order signal words and phrases, such as dates, ages, "first," "then," "later," "after," or "finally," as well as by tracking whether each sentence advances the narrative or account forward in time.

Organization questions on the ISEE ask students to look beyond individual details and identify the author's overall method of presenting information. A passage that introduces its subject and subsequently recounts what happened over time is organized chronologically, even if it includes brief descriptive details along the way. Identifying the time sequence helps a reader follow the author's progression and distinguish the passage's structure from its topic. For additional guidance on the ISEE reading section and its focus on reading comprehension skills, see the ISEE by ERB overview and ERB's ISEE preparation resources.

QUESTION NO: 14

A and B have an average of 15.

If A is greater than B, which of the following MUST be true?

A. A − B = 15

B. A/B × 2 = 15

C. A = 12 and B = 18

D. (A + B) ÷ 2 = 15

ANSWER: D

Explanation:

The statement *(A + B) ÷ 2 = 15* must be true because it is precisely the definition of the given condition: the average of two quantities is their sum divided by two. If the average of A and B is 15, then their total is 30, since multiplying both sides of (A + B) ÷ 2 = 15 by 2 gives A + B = 30. Dividing that total by 2 necessarily returns 15. The additional information that A is greater than B tells us how the two values are ordered, but it does not alter the average relationship. For example, A could be 16 and B could be 14, or A could be 20 and B could be 10; in each case, the sum is 30 and the average is 15. Therefore, the average equation remains true for every pair of values satisfying the prompt. This follows the standard arithmetic-mean formula, explained by Khan Academy and Encyclopaedia Britannica.

QUESTION NO: 15

Select the word that best completes the sentence.

Viewers were unsurprised when the notoriously _____ host began to attack his guest's political views.

A. popular

B. understanding

C. confrontational

D. discerning

ANSWER: C

Explanation:

The word *confrontational* best completes the sentence because it describes someone who tends to provoke conflict, challenge others directly, or behave in an argumentative manner. A host who begins attacking a guest's political views is acting in a way that invites disagreement rather than calm discussion. The adverb *notoriously* is also an important clue: it indicates that the host is widely known for this particular behavior, so viewers would reasonably expect an aggressive exchange and would not be surprised by it. The sentence's context requires an adjective describing a habitual tendency toward verbal conflict, and *confrontational* precisely supplies that meaning. Merriam-Webster defines *confrontational* as tending to deal with situations in an aggressive way, especially by arguing, which closely matches the host's attack on the guest's views. See Merriam-Webster's definition of confrontational. For additional usage and meaning, see Cambridge Dictionary's entry for confrontational.

QUESTION NO: 16

Select the word that is most nearly the same in meaning as the word in capital letters.

SALUTATION

A. speech

B. persuasion

C. penalty

D. greeting

ANSWER: D

Explanation:

The correct answer is **greeting**. A salutation is an expression of welcome, respect, or acknowledgment directed toward another person. It can occur in spoken communication, such as saying “hello,” “good morning,” or “welcome,” and it can also appear in writing, especially at the beginning of a letter, email, or speech. For example, “Dear Ms. Lee” is a written salutation, while “Good afternoon” is a spoken salutation. In each case, the purpose is to greet or address someone courteously, making **greeting** the closest match in meaning. Dictionary definitions consistently identify a salutation as a greeting or an expression of goodwill when meeting someone. See the Merriam-Webster definition of “salutation” and the Cambridge Dictionary definition of “salutation”.

QUESTION NO: 17

The mid-nineteenth century was a period of great unrest and change in America. It was the era of the Civil War, of the ratification of the 14th and 15th amendments, which granted voting rights to all male citizens in America. It was a time when abolitionists, slaves, and politicians banded together to struggle for the equality of all men. However, in looking back on this era, many forget that a parallel fight was raging through the American landscape: the fight for the equality of women.

It was in 1848 that the first Women's Rights Convention was held in Seneca Falls, New York. Elizabeth Cady Stanton, future president of the National American Woman Suffrage Association, proposed a "Declaration of Sentiments" at this convention, which included twelve resolutions. Eleven easily passed; however, one declared that the right to vote was "the first right of every citizen" and that it ought not to be withheld from women. Even among those assembled with the purpose of advancing women's rights and improving their position in society, this was a radical proposal. While the endorsement of equal suffrage was hotly debated, ultimately the "Declaration of Sentiments" was endorsed by the convention in full.

This was a pivotal moment in the struggle for women's suffrage. Women's Rights conventions were held throughout the 1850s, but in an effort to aid others during the Civil War these conventions were stopped in the mid-1860s. In 1867, after the war had ended, Susan B. Anthony, another prominent advocate for women's rights, formed the Equal Rights Association, and the long struggle continued. Though they were rejected and turned aside by politicians in many states, she and her fellow suffragettes did not give up on the fight for women's suffrage. It was not until the 1920s, the better part of a century after the Declaration of Sentiments was endorsed by the convention at Seneca Falls, that these women's efforts bore fruit. On August 26, 1920, the 19th Amendment to the Constitution was ratified, granting women the ability to finally exercise their "first right" as American citizens.

According to the passage, what was the role of the Civil War in the struggle for women's suffrage?

A. The Civil War dealt a blow to the Women's Rights movement from which it never fully recovered.

B. Victory for abolitionists in the Civil War inspired the Women's Rights movement.

C. The role that women played in the Civil War prompted the government to recognize their rights as citizens.

D. The eruption of the Civil War temporarily interrupted the Women's Rights movement.

ANSWER: D

Explanation:

The eruption of the Civil War temporarily interrupted the Women's Rights movement. In the years before the conflict, advocates had begun building an organized movement through conventions, petitions, speeches, and alliances with other reform causes, including abolition. When war began in 1861, however, national attention, political energy, and organizational resources shifted toward preserving the Union, ending slavery, and supporting the war effort. Many reformers, including prominent advocates of women's rights, devoted their work to wartime relief and emancipation-related efforts rather than continuing a separate suffrage campaign. This was an interruption, not the end of the movement: after the war, activists resumed organizing and pressed for women's voting rights with renewed urgency, even as debates over postwar constitutional amendments created difficult divisions within the movement. The National Park Service notes that the women's-rights campaign was suspended during the Civil War and revived afterward, while the Library of Congress describes the broader historical development of the suffrage movement. See the National Park Service's history of the women's-rights movement and the Library of Congress overview of women's suffrage.

QUESTION NO: 18

Select the word that is most nearly the same in meaning as the word in capital letters.

FEISTY

A. genuine

B. spirited

C. unique

D. weary

ANSWER: B

Explanation:

The correct answer is **spirited**. *Feisty* describes a person or animal that is lively, determined, energetic, and willing to stand up for themselves. It often suggests a bold, plucky quality, especially when someone responds to difficulty or opposition with confidence and vigor. For example, a feisty student might speak up passionately during a discussion, or a feisty small dog might behave with surprising courage and energy. *Spirited* is the closest match because it likewise means full of energy, courage, enthusiasm, or determination. In vocabulary questions, the best synonym is the choice that preserves the central meaning and tone of the original word, rather than merely sharing a vague positive or negative association. Major dictionaries define *feisty* in terms of liveliness, determination, and courage, which directly supports the meaning of *spirited*. See the definitions from Merriam-Webster and Cambridge Dictionary.

QUESTION NO: 19

Select the word that is most nearly the same in meaning as the word in capital letters.

REMINISCE

A. astonish

B. deceive

C. reflect

D. utilize

ANSWER: C

Explanation:

reflect is the correct answer because *reminisce* means to think about, recall, or talk about experiences from the past, often with pleasure or nostalgia. A person may reminisce about childhood, a memorable trip, or time spent with friends; in each case, they are reflecting on earlier events and memories. In this context, *reflect* most closely captures the act of thoughtfully looking back on past experiences. Major dictionaries define *reminisce* as recalling past experiences or events, which supports this synonym relationship. See the definitions from Merriam-Webster and Cambridge Dictionary.

QUESTION NO: 20

Use the set of numbers shown to answer the question.

{6, 9, 12, 15, 18, ... }

Which describes this set of numbers?

A. odd numbers

B. even numbers

C. prime numbers

D. multiples of 3

ANSWER: D

Explanation:

The correct description is **multiples of 3**. Each displayed number can be written as 3 multiplied by a whole number: 6 = 3 × 2, 9 = 3 × 3, 12 = 3 × 4, 15 = 3 × 5, and 18 = 3 × 6. The pattern continues by adding 3 each time, so every following term will also be divisible by 3. A multiple is a number produced by multiplying a given number by an integer; therefore, this set represents consecutive multiples of 3 beginning with 6. Recognizing a constant difference of 3 is a useful way to identify the rule for this sequence, and checking that each term divides evenly by 3 confirms the classification. For further review of multiples and divisibility, see Khan Academy's factors and multiples review and Math is Fun's definition of multiples.

QUESTION NO: 21

In the passage below, businessman and philanthropist Andrew Carnegie describes an interaction with business partners, which would influence their future relationship.

The sale of the bonds had not gone very far when the panic of 1873 was upon us. One of the sources of revenue which I then had was Mr. Pierpont Morgan. He said to me one day:

"My father has cabled to ask whether you wish to sell out your interest in that idea you gave him."

I said: "Yes, I do. In these days I will sell anything for money."

"Well," he said, "what would you take?"

I said I believed that a statement recently rendered to me showed that there were already fifty thousand dollars to my credit, and I would take sixty thousand. Next morning when I called Mr. Morgan handed me checks for seventy thousand dollars.

"Mr. Carnegie," he said, "you were mistaken. You sold out for ten thousand dollars less than the statement showed to your credit. It now shows not fifty but sixty thousand to your credit, and the additional ten makes seventy."

The payments were in two checks, one for sixty thousand dollars and the other for the additional ten thousand. I handed him back the ten-thousand-dollar check, saying:

"Well, that is something worthy of you. Will you please accept these ten thousand with my best wishes?"

"No, thank you," he said, "I cannot do that."

Such acts, showing a nice sense of honorable understanding as against mere legal rights, are not so uncommon in business as the uninitiated might believe. And, after that, it is not to be wondered at if I determined that so far as lay in my power neither Morgan, father or son, nor their house, should suffer through me. They had in me henceforth a firm friend.

Which best explains why Mr. Carnegie said to Mr. Pierpont Morgan "In these days I will sell anything for money" (lines 8-9)?

A. Mr. Morgan had always dealt honorably with Mr. Carnegie in the past, so he knew that he would get a good deal.

B. Mr. Carnegie was eager to make whatever money he could during the financial panic.

C. Mr. Carnegie was very new to business at that time, and eager to make any deal that he could.

D. Mr. Pierpont Morgan was Mr. Carnegie's main source of revenue, so he wanted to keep him happy.

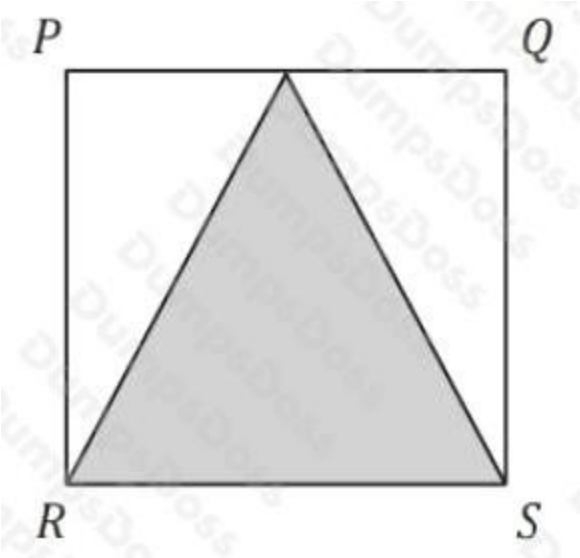
ANSWER: B

Explanation:

Mr. Carnegie was eager to make whatever money he could during the financial panic. The remark, “In these days I will sell anything for money,” is deliberately emphatic: it conveys that ready cash had become especially valuable in the unstable financial conditions described in the passage. During a panic, businesses can face immediate obligations while credit is scarce and investments may be difficult to convert into usable funds. Carnegie’s statement therefore reflects a practical willingness to sell assets in exchange for cash, rather than an ordinary desire to make a favorable long-term business arrangement. The surrounding historical setting supports this interpretation. Carnegie recounts events connected with the Panic of 1873, a severe downturn in which bank and business failures, tight credit, and uncertainty placed enormous pressure on companies and investors. In that context, his words to Pierpont Morgan signal urgency and a need for liquidity. This reading depends on the meaning of the quoted language and its financial context, not on an assumption about Carnegie’s experience or his relationship with Morgan. Carnegie’s memoir is available through Project Gutenberg’s edition of The Autobiography of Andrew Carnegie; background on the crisis appears in the Federal Reserve History account of the Panic of 1873.

QUESTION NO: 22

Refer to the picture. Figure PQRS is a square with side lengths of 6 cm.



What is the area of the shaded region?

A. 6

B. 18

C. 36

D. 81

ANSWER: B

Explanation:

The shaded region has an area of **18 square centimeters**. The entire figure is a square with side length 6 cm, so its total area is found by multiplying the side lengths: 6 × 6 = 36 square centimeters. As shown in the diagram, the shaded portion is one of two congruent triangular halves of the square. A diagonal of a square divides it into two triangles with equal area because each triangle has the same base and height, or equivalently because the diagonal creates two congruent right triangles. Therefore, the shaded half occupies one-half of the square's total area. Half of 36 square centimeters is 18 square centimeters. This can also be checked with the triangle-area formula: the shaded triangle has a base of 6 cm and a perpendicular height of 6 cm, so its area is 1/2 × 6 × 6 = 18 square centimeters. For a review of square-area calculations, see Math is Fun: Square. For the triangle-area formula used to confirm the result, see Math is Fun: Triangle Area.

QUESTION NO: 23

Select the word that is most nearly the same in meaning as the word in capital letters.

ANCIENT

A. brief

B. old

C. narrow

D. noisy

ANSWER: B

Explanation:

The correct answer is **old**. *Ancient* describes something that existed or occurred a very long time ago. Ancient ruins, for example, are very old remains of buildings or communities from the past. Although *old* can refer to something of any

considerable age, it is the closest choice because it preserves the essential meaning of *ancient*. See Merriam-Webster: ancient and Cambridge Dictionary: ancient.

QUESTION NO: 24

Point (0, 4) lies on a circle whose center is (4,1).

What is the area of the circle in square grid units?

A. 4π

B. 10π

C. 25π

D. 30π

ANSWER: C

Explanation:

The correct answer is **25π**. A circle's radius is the distance from its center to any point on the circle. Here, the horizontal change from the center, (4, 1), to the point, (0, 4), is 4 grid units, and the vertical change is 3 grid units. These changes form the legs of a right triangle whose hypotenuse is the radius. Applying the distance formula gives $r = \sqrt{[(4 - 0)^2 + (1 - 4)^2]} = \sqrt{(16 + 9)} = \sqrt{25} = 5$. The area of a circle is found with the formula $A = \pi r^2$. Substituting a radius of 5 gives $A = \pi(5^2) = 25\pi$ square grid units. This uses the coordinate-plane distance relationship and the standard circle-area formula. For a review of the distance formula, see Khan Academy's distance-formula lesson. For circle-area fundamentals, see Math is Fun: Area of a Circle.

QUESTION NO: 25

Select the word that is most nearly the same in meaning as the word in capital letters.

COSMIC

A. celestial

B. unknown

C. obscure

D. bright

ANSWER: A

Explanation:

The correct answer is *celestial*. *Cosmic* is an adjective meaning "of or relating to the universe," especially outer space, the stars, planets, and other objects beyond Earth. *Celestial* has the same central meaning: it describes something associated with the sky, space, or heavenly bodies. For example, a writer could describe a galaxy as a cosmic phenomenon or as a celestial object; both descriptions place it in the context of the universe and astronomical space.

This is the closest synonym because both words are used in scientific and literary contexts to connect a thing, event, or idea with the vast universe. The association is not limited to a particular planet or star; rather, it concerns the larger realm of space and the bodies within it. Merriam-Webster defines *cosmic* as relating to the cosmos, while its entry for *celestial* includes relating to the sky or visible heavens. Those definitions show the strong overlap in meaning required by a synonym question. See Merriam-Webster: cosmic and Merriam-Webster: celestial.

QUESTION NO: 26

What is the value of the numerical expression (1.5 × 103) × (2.0 × 106)?

A. 0.5 × 103

B. 3.5 × 106

C. 3.0 × 109

D. 3.4 × 1018

ANSWER: C

Explanation:

The correct value is **3.0×10^9**. Interpreting the notation as scientific notation, the expression is $(1.5 \times 10^3) \times (2.0 \times 10^6)$. First multiply the coefficients: 1.5 × 2.0 = 3.0. Then multiply the powers of ten. When powers with the same base are multiplied, their exponents are added, so $10^3 \times 10^6 = 10^{3+6} = 10^9$. Combining the coefficient and power of ten gives 3.0×10^9. This is already in proper scientific notation because the leading coefficient, 3.0, is at least 1 and less than 10. The trailing zero also appropriately reflects the precision indicated by 2.0 in the original expression. Exponent rules, including the product-of-powers rule, are summarized by Khan Academy's exponent-properties review. For additional practice with multiplying numbers in scientific notation, see Khan Academy's scientific-notation lesson.

QUESTION NO: 27

What is the name of a polygon with four sides and four right angles?

A. rectangle

B. pentagon

C. kite

D. rhombus

ANSWER: A

Explanation:

A rectangle is a quadrilateral, meaning that it has four sides. Its defining angle property is that all four interior angles are right angles, each measuring 90 degrees. Therefore, a four-sided polygon with four right angles is correctly called a rectangle. The side lengths do not need to all be the same: a rectangle may have two longer opposite sides and two shorter opposite sides. If all four sides happen to be equal as well as all angles being right angles, the figure is a square; a square is a special type of rectangle because it still satisfies the definition of having four right angles. This classification is useful because geometric names are based on defining properties, and the stated angle information directly establishes the rectangle category. For a definition of rectangles and their properties, see Encyclopaedia Britannica: Rectangle. Additional background on quadrilaterals and their classifications is available from Math Is Fun: Quadrilaterals.

QUESTION NO: 28

The ratio of mammals to reptiles at the zoo was 4:1.

For every 20 mammals, how many reptiles were there?

A. 80

B. 20

C. 5

D. 4

ANSWER: C

Explanation:

The correct answer is **5**. A ratio of 4:1 means that every group contains 4 mammals for each 1 reptile. To find the number of reptiles associated with 20 mammals, first determine how many times 4 mammals fit into 20 mammals: 20 ÷ 4 = 5. This means the original ratio has been scaled by a factor of 5. The reptile part of the ratio must be scaled by that same factor: 1 × 5 = 5 reptiles. Equivalently, the ratio can be written as the fraction reptiles per mammal, 1/4. Applying that fraction to 20 mammals gives 20 × 1/4 = 5. Maintaining the same multiplier for both terms is essential when working with equivalent ratios, because it preserves the stated relationship between the two quantities. The resulting equivalent ratio is 20:5, which simplifies by dividing both numbers by 5 to return to 4:1. For further guidance on equivalent ratios and proportional reasoning, see Khan Academy's ratios and proportional relationships resources and Math is Fun's explanation of ratios.

QUESTION NO: 29

Which of the following equations best represents the relationship described by the table?

Day (*D*)	Number of apples on the ground (*A*)
1	7
2	13
3	19
4	25
5	31

A. A = 6D

B. A = 7D

C. A = 6D + 1

D. 4A = 25D

ANSWER: C

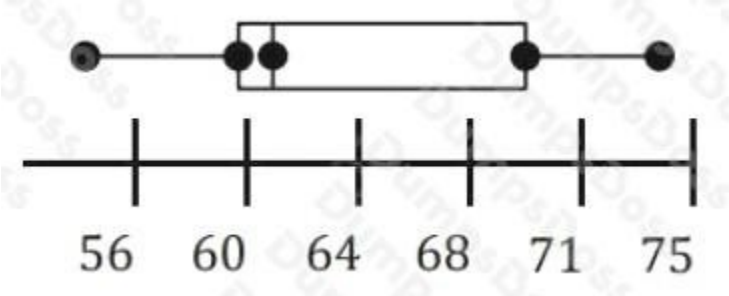
Explanation:

A = 6D + 1 represents a linear relationship in which the value of A is one more than six times the value of D. The table's paired values follow this consistent rule: multiplying each D-value by 6 and then adding 1 produces its corresponding A-

value. In a linear equation of the form *y = mx + b*, the coefficient multiplying the input is the rate of change, while the constant is the starting value, or intercept. Here, 6 is the rate at which A changes for each one-unit increase in D, and 1 is the value added after that multiplication. This can be checked directly with any row: substitute that row's D-value into *6D + 1*; the result matches the listed A-value. Because one equation must account for every ordered pair in the table, this repeated multiplication-and-addition pattern identifies the relationship as *A = 6D + 1*. For further review of interpreting linear equations and identifying slope and intercept, see Khan Academy's linear equations overview and Math is Fun's explanation of linear equations.

QUESTION NO: 30

The box-and-whisker plot below represents the heights of thirty people in Jessica's family.



What is the median height of Jessica's family members?

A. 56

B. 62

C. 65

D. 75

ANSWER: B

Explanation:

The median height is **62**. In a box-and-whisker plot, the median is represented by the line drawn inside the box. It identifies the middle value of the ordered data set: half of the observations are at or below this value and half are at or above it. Because the graph summarizes the heights of thirty family members, the median separates the lower fifteen heights from the upper fifteen heights (or, more precisely for an even number of values, it is determined from the two central ordered values). Reading the position of the interior line of the box against the labeled number line gives a value of 62. Thus, 62 is the family's median height. This use of the interior box line as the median is a standard feature of box plots; see Khan Academy's guide to reading box-and-whisker plots and the NIST description of box plots.

QUESTION NO: 31

Many people have asked me what, all things considered, is the most valuable quality a wilderness traveler can possess. I have always replied unhesitatingly; for, no matter how useful or desirable attributes such as patience, courage, strength, endurance, good nature, and ingenuity may prove to be, undoubtedly a person with them, but without a sense of direction, is practically helpless in the wilds. Therefore, I should name a sense of direction as the prime requisite for those who would become true foresters, those who would depend on themselves rather than on guides. The faculty is largely developed, of course, by practice, but it must be inborn. Some people possess it; others do not – just as some people are naturally musical while others have no ear for music at all. It is a sort of extra, having nothing to do with criteria of intelligence or mental development: like the repeater movement in a watch. A highly educated or cultured person may lack it, while the roughest may possess it. Some who have never been in the woods or mountains acquire a fair facility at picking a way in the space of a vacation, but I have met a few who have spent their lives on the prospect trail, and who are still, and always will be, as helpless as the newest city dweller. It is a gift, a talent. If you have its germ, you can become a traveler of the wide and lonely places. If not, you may as well resign yourself to guides.

According to the passage, having a sense of direction is:

A. impossible without a good understanding of music.

B. entirely innate, and does not improve with practice.

C. similar to having a natural talent for music.

D. not as important as many other traits.

ANSWER: C

Explanation:

The correct answer is *similar to having a natural talent for music.* The passage's comparison presents sense of direction as an ability that can vary naturally from person to person, much like musical aptitude. This is a comparison question: rather than asking for an unrelated fact about music or navigation, it asks readers to identify the specific analogy used by the author. The comparison indicates that some people may begin with a stronger inherent capacity for orienting themselves and finding their way, just as some people show an early aptitude for music. It does not require the two abilities to be literally connected; the point is that both are examples of talents that may be more pronounced in certain individuals. Selecting the answer requires careful attention to the author's stated relationship between the concepts and to wording such as "similar to," which accurately reflects an analogy. This aligns with ISEE reading-comprehension practice, in which students support answers with details and comparisons stated or clearly conveyed in a passage. See ERB's overview of the ISEE at ERB: ISEE by ERB and its preparation guidance at ERB: ISEE Preparation.

QUESTION NO: 32 - (SIMULATION)

SIMULATION

Essay Topic

There are many challenges facing young people today. Name one such challenge, and explain what you think is the best way of dealing with this challenge.

• Only write on this essay question

• Only pages 3 and 4 will be sent to the schools

• Only write in blue or black pen

NOTES:

_____

ANSWER: See the explanation for the answer

Explanation:

Essay Topic: There are many challenges facing young people today. Name one such challenge, and explain what you think is the best way of dealing with this challenge.

One challenge facing young people today is the pressure to compare themselves with others on social media. A student may open an app for only a few minutes and see pictures of perfect vacations, high grades, expensive clothes, and large groups of friends. Even though these posts show only selected moments, they can make ordinary life seem inadequate. Constant comparison can lead to anxiety, low self-confidence, and the feeling that one must always impress other people.

I think the best way to deal with this challenge is to use social media thoughtfully instead of allowing it to control one's attention. Young people should set reasonable limits on screen time and take breaks from apps that make them feel worse about themselves. They can also unfollow accounts that encourage unhealthy comparison and follow people or organizations that provide useful, positive information.

However, simply spending less time online is not enough. Students also need strong connections in real life. Talking honestly with friends, parents, teachers, or counselors can remind a person that everyone has problems that may not appear on a screen. Activities such as sports, music, volunteering, and reading can build confidence because they give young people goals that are based on effort and growth rather than on likes or comments.

Social media is not entirely harmful; it can help people communicate and discover new ideas. The problem begins when it becomes the main measure of a person's worth. By setting limits, choosing positive online spaces, and investing in real relationships, young people can use technology without letting comparison define them.

QUESTION NO: 33

Select the word that best completes the sentence.

The Student Activities Board considered taking a senior trip to France, but determined that it was too _____ for their limited budget.

A. prudent

B. frugal

C. curmudgeonly

D. extravagant

ANSWER: D

Explanation:

extravagant best completes the sentence because it describes something that costs more than is reasonable or affordable. The key contextual clue is “for their limited budget”: the board considered the trip but decided against it because its expense exceeded the amount of money available. Calling the trip extravagant communicates that it would involve excessive spending relative to the group’s financial resources. This creates a clear and logical relationship between the proposed international trip and the decision not to take it. Merriam-Webster defines *extravagant* as exceeding the limits of reason or necessity, especially in spending, while Cambridge Dictionary describes it as costing too much money or using too much of something. Those meanings precisely fit a France trip judged unaffordable by a student organization with a restricted budget. The sentence therefore uses the adjective to characterize the trip’s cost, not the board’s attitude or planning style. See Merriam-Webster’s definition of extravagant and Cambridge Dictionary’s definition of extravagant.

QUESTION NO: 34

Select the word that best completes the sentence.

While we use our vocal cords to produce complex sounds, whales lack _____ vocal cords yet still produce elaborate songs without them.

A. functional

B. graceful

C. nagging

D. solitary

ANSWER: A

Explanation:

The phrase “functional vocal cords” best completes the sentence because it creates a clear and logical contrast: humans use working vocal cords to make complex sounds, whereas whales can produce elaborate vocalizations through different anatomical mechanisms. In this context, *functional* means capable of performing the ordinary sound-producing role associated with vocal cords. The sentence’s final clause, “yet still produce elaborate songs without them,” reinforces that the relevant idea is the absence of vocal cords that function in the usual human-like way, not a description of appearance, behavior, or emotional effect.

Whale sound production is specialized and varies among cetaceans. For example, baleen whales generate low-frequency calls using structures in the larynx, while toothed whales generate many sounds through nasal structures and air sacs rather than by relying on human-style vocal-cord vibration. These adaptations enable whales to communicate effectively underwater, including the complex patterned vocalizations often called whale songs. The National Oceanic and Atmospheric Administration describes whales’ use of sound for communication and notes the importance of specialized sound-production systems in marine mammals. See NOAA Fisheries: Whales Use Sound to Communicate and NOAA Ocean Service: Whale Songs.

QUESTION NO: 35

If 40 percent of a number is 200, then 10 percent of the same number is:

A. 10

B. 20

C. 50

D. 190

ANSWER: C

Explanation:

The correct answer is **50**. Since 40 percent of the number equals 200, 10 percent can be found by recognizing that 40 percent consists of four equal groups of 10 percent. Divide 200 by 4: 200 ÷ 4 = 50. Therefore, 10 percent of the same number is 50.

This can also be verified by first finding the whole number. Write 40 percent as 0.40 and solve 0.40 × n = 200. Dividing by 0.40 gives n = 500. Then calculate 10 percent of 500: 0.10 × 500 = 50. Both methods produce the same result.

Percent problems often become simpler when the requested percentage is a direct fraction of the known percentage. Here, 10 percent is one-fourth of 40 percent, so the corresponding value must be one-fourth of 200. For additional guidance on percentages and their relationship to fractions and decimals, see Khan Academy’s percentage review and Math Is Fun’s introduction to percentages.

QUESTION NO: 36

The mid-nineteenth century was a period of great unrest and change in America. It was the era of the Civil War, of the ratification of the 14th and 15th amendments, which granted voting rights to all male citizens in America. It was a time when abolitionists, slaves, and politicians banded together to struggle for the equality of all men. However, in looking back on this era, many forget that a parallel fight was raging through the American landscape: the fight for the equality of women.

It was in 1848 that the first Women's Rights Convention was held in Seneca Falls, New York. Elizabeth Cady Stanton, future president of the National American Woman Suffrage Association, proposed a "Declaration of Sentiments" at this convention, which included twelve resolutions. Eleven easily passed; however, one declared that the right to vote was "the first right of every citizen" and that it ought not to be withheld from women. Even among those assembled with the purpose of advancing women's rights and improving their position in society, this was a radical proposal. While the endorsement of equal suffrage was hotly debated, ultimately the "Declaration of Sentiments" was endorsed by the convention in full.

This was a pivotal moment in the struggle for women's suffrage. Women's Rights conventions were held throughout the 1850s, but in an effort to aid others during the Civil War these conventions were stopped in the mid-1860s. In 1867, after the war had ended, Susan B. Anthony, another prominent advocate for women's rights, formed the Equal Rights Association, and the long struggle continued. Though they were rejected and turned aside by politicians in many states, she and her fellow suffragettes did not give up on the fight for women's suffrage. It was not until the 1920s, the better part of a century after the Declaration of Sentiments was endorsed by the convention at Seneca Falls, that these women's efforts bore fruit. On August 26, 1920, the 19th Amendment to the Constitution was ratified, granting women the ability to finally exercise their "first right" as American citizens.

Which best expresses the author's view of the 19th amendment?

A. The 19th Amendment was little more than a symbolic victory for Women's Rights, but would ultimately prove to be worth the struggle.

B. The 19th Amendment was probably a major cause of the Civil War, but still a necessary step in forming a strong democracy.

C. The 19th amendment was a long-awaited recognition of basic rights, which was only possible after a long struggle.

D. The 19th Amendment unfairly restricted the right to vote, and abolishing it was an important step towards a more equal democracy.

ANSWER: C

Explanation:

The 19th amendment was a long-awaited recognition of basic rights, which was only possible after a long struggle. This accurately captures the historical significance generally emphasized in accounts of the woman-suffrage movement: the amendment formally prohibited denying or abridging U.S. citizens' right to vote on account of sex, recognizing women's political participation as a fundamental matter of citizenship and democratic equality. Its ratification on August 18, 1920, followed decades of organized advocacy, including petitions, conventions, state-level campaigns, public demonstrations, and sustained work by many suffrage organizations and activists. Thus, describing the amendment as both "long-awaited" and achieved only through a "long struggle" reflects the amendment's place as the culmination of an extensive movement rather than an immediate or casual political change. The National Archives identifies the Nineteenth Amendment as the constitutional guarantee that voting rights cannot be denied because of sex and records its 1920 ratification history. The Library of Congress likewise documents the long campaign for woman suffrage and the efforts that led to the amendment's adoption. See National Archives: 19th Amendment and Library of Congress: Women's Suffrage.

QUESTION NO: 37

258 × 72 =

A. 18,576

B. 18,060

C. 17,294

D. 17,292

ANSWER: A

Explanation:

18,576 is correct. Break 72 into 70 + 2, then apply the distributive property: 258 × 72 = 258 × (70 + 2). First, calculate 258 × 70 by finding 258 × 7 = 1,806 and multiplying that result by 10, giving 18,060. Next, calculate 258 × 2 = 516. Adding the two partial products, 18,060 + 516, gives 18,576. This approach is reliable because it preserves the value of 72 while splitting it into easier place-value components. It can also be checked using standard long multiplication: multiply 258 by 2, then multiply 258 by 7 tens, and add the aligned results. The result has a reasonable size as well: 258 is close to 260 and 72 is close to 70, and 260 × 70 = 18,200, so 18,576 is a sensible exact product. For further practice with multi-digit multiplication and place value, see Khan Academy's multiplication lesson and Math Is Fun's long multiplication guide.

QUESTION NO: 38

Which of the following numbers is a multiple of 15?

A. 3

B. 6

C. 30

D. 33

ANSWER: C

Explanation:

30 is a multiple of 15 because it can be written as 15 multiplied by a whole number: 15 × 2 = 30. A multiple of a number is the result of multiplying that number by an integer. Since 2 is an integer, 30 belongs to the sequence of multiples of 15: 15, 30, 45, 60, and so on.

Another reliable way to identify a multiple of 15 is to use its factors. Because 15 = 3 × 5, a number must be divisible by both 3 and 5 to be divisible by 15. The number 30 ends in 0, so it is divisible by 5. Its digits add to 3 (3 + 0), and 3 is divisible by 3. Therefore, 30 is divisible by both factors of 15, confirming that it is a multiple of 15. For further review of multiples and divisibility, see Khan Academy's factors and multiples lesson and Math is Fun's divisibility rules guide.

QUESTION NO: 39

Brianna has a drawer of socks with five different colors: purple, green, black, white, and pink. The probability of her choosing a white sock is 3 out of 7.

Which combination of socks is possible?

A. 3 white socks and 7 other socks

B. 6 white socks and 14 other socks

C. 7 white socks and 21 other socks

D. 9 white socks and 12 other socks

ANSWER: D

Explanation:

The possible combination is **9 white socks and 12 other socks**. Probability compares the number of favorable outcomes to the total number of equally likely outcomes. Here, choosing a white sock is the favorable outcome, so the number of white socks must be three-sevenths of the total number of socks. This combination contains 9 white socks and 12 socks of other colors, for a total of 21 socks. The probability of selecting white is therefore 9 divided by 21. Both 9 and 21 can be divided by 3, producing 3 divided by 7, which matches the probability stated in the question.

The 12 nonwhite socks can be made up of purple, green, black, and pink socks, while the 9 white socks account for the white color. The important calculation is that the total includes every sock in the drawer, not just the socks that are not white. This is an application of the standard probability rule: probability equals the number of favorable outcomes divided by the total number of possible outcomes. See Khan Academy's overview of basic probability and Encyclopaedia Britannica's probability theory reference.

QUESTION NO: 40

The first four terms of a sequence are shown below:

2, 6, 18, 54

What is the next term of this sequence?

A. 57

B. 108

C. 162

D. 216

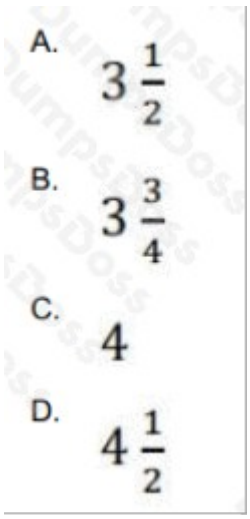
ANSWER: C

Explanation:

The correct answer is **162**. Each term is found by multiplying the preceding term by 3. The pattern is 2 × 3 = 6, 6 × 3 = 18, and 18 × 3 = 54. Continue the same rule: 54 × 3 = 162. Therefore, 162 is the next term in the sequence.

QUESTION NO: 41

If two times x is greater than 7, then which of the following numbers could NOT be a value of x?



A. Option A

B. Option B

C. Option C

D. Option D

E. Any value of x less than or equal to 3.5

ANSWER: E

Explanation:

The inequality “two times x is greater than 7” can be written as 2x > 7. To isolate x, divide both sides by 2. Because 2 is positive, dividing does not reverse the inequality sign, giving x > 3.5. Therefore, x must be strictly greater than 3.5. Any number equal to 3.5 or less than 3.5 could not be a value of x. The correct response is therefore “Any value of x less than or equal to 3.5,” which directly represents all values excluded by the condition. It is important that the boundary value 3.5 is included among the excluded values: substituting x = 3.5 produces 2(3.5) = 7, and 7 is not greater than 7. This is a strict inequality, so the endpoint is not allowed. The method follows the standard rule that an inequality’s direction remains unchanged when both sides are divided by the same positive number. See Khan Academy’s introduction to inequalities and OpenStax’s guide to solving linear inequalities.

QUESTION NO: 42

Since prehistoric times, people have grown cotton to make clothing: archaeologists have found pieces of cotton fabric in Mexico and Pakistan dating from as far back as 5000 BC. Not only is cotton one of our most ancient clothing materials, it is also the most commonly used fiber in clothing today. Although many people wear it daily, they may not be aware of the role cotton has played in history.

In the United States, most cotton was produced in the fertile South. Until the end of the 18th century, the US cotton industry was small, yielding only about 900,000 kilograms of cotton in 1791. The industry began to grow tremendously in 1793, when the American Eli Whitney invented the cotton gin. Before the cotton gin, a bale of cotton required over 600 hours of labor to produce. With Whitney's invention, the process took only about 12 hours. With this increase in efficiency, cotton soon became the dominant industry in the South, and by 1801 the United States was producing more than 22 million kilograms of cotton every year.

By 1860, one year before the start of the American Civil War, the Southern States supplied the majority of the world's cotton. The cotton industry brought in huge profits for the plantation owners. However, these profits were accompanied by a substantial growth in the slave industry, since slaves comprised the majority of the workforce on cotton plantations. By 1860, slaves constituted more than 50% of the population of the cotton-producing states of Alabama, Mississippi, and Louisiana. The growth of the slave-based cotton industry contributed in turn to the American Civil War, since the North opposed the use of slave labor, and the South was emboldened by the power of the cotton industry.

During the Civil War, the Southern States attempted a policy called "cotton diplomacy." Most of the cotton produced in the American South was exported to Europe, which was dependent on American raw cotton for its textile industry. The Southern States attempted to use their economic influence to persuade Great Britain to side with them in the Civil War by drastically reducing the amount of cotton they supplied. So strong was their belief that Great Britain would accede to their request that the plantation owners dubbed their crop "King Cotton." Unfortunately for them, the warehouses of Great Britain had already imported and stockpiled a huge surplus of cotton. Cotton diplomacy failed, and neither Great Britain nor any other European power intervened during the Civil War.

The history of cotton is woven together with agricultural slavery, industrial advances, civil war, and foreign diplomacy. It has not only been a fiber of choice in our clothing for thousands of years, but also a significant strand in the fabric of history.

Which sentence best describes the main point of the second paragraph?

A. The South was the most fertile region of the United States.

B. Eli Whitney was partially responsible for the Civil War.

C. Cotton fields were mostly worked by slave labor.

D. New technology transformed cotton production from a minor industry to a major one.

ANSWER: D

Explanation:

New technology transformed cotton production from a minor industry to a major one. This choice states the central idea rather than isolating one supporting detail. The second paragraph's discussion of technological development, particularly the cotton gin associated with Eli Whitney, shows how processing cotton became much faster and more profitable. Before this innovation, separating cotton fibers from seeds required extensive manual labor and limited the scale of production. Mechanized processing changed that economic reality: growers could prepare far more cotton for market, encouraging dramatic expansion of cotton cultivation and making cotton a dominant Southern cash crop. The main point is therefore the broad economic transformation created by technology, not simply a fact about geography, an individual, or the workforce. The National Park Service explains that the cotton gin rapidly increased the amount of cotton that could be processed and contributed to the crop's expansion; see National Park Service: Eli Whitney. Additional historical context on the invention and

its effects appears in Encyclopaedia Britannica: cotton gin. Together, these details support the sentence's emphasis on a shift from limited production to a major industry.

QUESTION NO: 43

How could life possibly have gotten started on Earth? How could so many and such a stunning number and variety of organisms have come into existence? Few questions have puzzled so many, for so long. Philosophers, authors, and scientists have pondered, discussed, and explored the issue for decades, and numerous hypotheses have been proposed over time: maybe the first organic molecules were formed in the deep ocean, from chemicals spewed out by volcanic vents. Maybe the earliest life was actually made of simple molecules, and these simple organisms created the molecules used by complex living organisms today. Maybe life came to Earth from outer space. But in 1952, in a laboratory in Chicago, one hypothesis was about to be put to the test.

For decades, Alexander Oparin and J.B.S. Haldane had proposed that conditions on the early Earth favored chemical reactions that could produce organic compounds – the building blocks of life – from inorganic precursors. At the University of Chicago, Stanley Miller and Harold Urey had devised an experiment to test the idea. The team filled a network of glass flasks and tubes with water, to simulate the early ocean, and with the same gases believed to be present in the early atmosphere. They applied heat, causing some of the water to evaporate and begin to circulate through the tubes as vapor. They then created electrical sparks inside the apparatus to simulate lightning. As the experiment proceeded, the mixture began to change color. After a few days, when the contents were analyzed, the scientists found what they were looking for: the very same organic compounds that are the building blocks of all life on Earth. While the Miller-Urey experiment did not finally answer the question of life's origins, it provided support for the hypothesis that conditions on the early Earth could generate the necessary components of life, and showed that natural chemical processes could well have been all that was required to strike the spark of life. One of the most meaningful steps in the quest for an answer to the question of life, the Miller-Urey experiment, over the course of a few days, revolutionized a conversation which has been taking place for thousands of years.

All of the following are true about Miller and Urey EXCEPT:

A. their experiment was based on the ideas of Oparin and Haldane.

B. they attempted to simulate the conditions of early earth.

C. they used sparks to simulate lightning.

D. they used some organic compounds to start the experiment.

ANSWER: D

Explanation:

The statement *"they used some organic compounds to start the experiment."* is the exception because the classic Miller–Urey experiment began with simple inorganic substances intended to represent a proposed early-Earth atmosphere, rather than with preexisting organic molecules. Stanley Miller and Harold Urey placed water in a closed apparatus along with methane, ammonia, and hydrogen. Heating the water produced water vapor, and electrical discharges supplied energy analogous to lightning. After the apparatus operated, the resulting mixture contained newly formed organic molecules, including several amino acids. Thus, the experiment's central significance was that organic building blocks could arise from relatively simple nonliving chemical precursors under the simulated conditions used in the apparatus.

The work was informed by the Oparin–Haldane hypothesis, which proposed that conditions on early Earth could permit chemical evolution and the accumulation of organic compounds. Although modern scientific models of Earth's earliest atmosphere have become more nuanced, the historical experiment remains an important demonstration that abiotic

chemical processes can synthesize biologically relevant organic molecules. The University of California Museum of Paleontology summarizes the experiment and its products at Understanding Evolution: The origin of life. A detailed historical account is also available through Proceedings of the National Academy of Sciences.

QUESTION NO: 44

A train travels 180 miles in 3 hours at a constant speed.

How many miles does the train travel in 5 hours at the same speed?

A. 108 miles

B. 240 miles

C. 300 miles

D. 900 miles

ANSWER: C

Explanation:

The correct answer is **300 miles**. First find the train's speed: 180 miles ÷ 3 hours = 60 miles per hour. At that same rate, in 5 hours the train travels 60 × 5 = 300 miles. The units also confirm the calculation: miles per hour multiplied by hours gives miles. See Khan Academy's rate-problem lesson.

QUESTION NO: 45

Select the word that is most nearly the same in meaning as the word in capital letters.

TIMID

A. bland

B. reliable

C. shy

D. tragic

ANSWER: C

Explanation:

shy is the best synonym for “timid.” A timid person is nervous, hesitant, or lacking confidence when dealing with other people or unfamiliar situations. “Shy” describes someone who tends to be reserved or uncomfortable in social interactions, often because they are self-conscious or lacking confidence. The two words therefore share the central idea of being hesitant and not bold. In a synonym question, the goal is to select the answer with the closest ordinary meaning, rather than a word that is merely associated with a different personality trait or mood. Major dictionaries directly include “shy” among the meanings or close synonyms of “timid.” Merriam-Webster defines timid in part as “lacking in courage or self-confidence,” and its thesaurus identifies “shy” as a synonym: Merriam-Webster: timid. Cambridge Dictionary similarly defines timid as “shy and nervous; without much confidence”: Cambridge Dictionary: timid. Thus, “shy” most nearly matches the meaning of the capitalized word.