

SET ONE

PART I

Q1:

A grocer has 400 pounds of coffee in stock, 20 percent of which is decaffeinated. If the grocer buys another 100 pounds of coffee of which 60 percent is decaffeinated, what percent, by weight, of the grocer's stock of coffee is decaffeinated?

- A. 28%
 - B. 30%
 - C. 32%
 - D. 34%
 - E. 40%
-

Q2:

If 2 different representatives are to be selected at random from a group of 10 employees and if p is the probability that both representatives selected will be women, is $p > \frac{1}{2}$?

(1) More than $\frac{1}{2}$ of the 10 employees are women.

(2) The probability that both representatives selected will be men is less than $\frac{1}{10}$.

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
 - B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
 - C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
 - D. **EACH** statement **ALONE** is sufficient.
 - E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.
-

Q3:

If the population of a certain country is 120,256,000 and its land area is 2,998,000 square kilometers, then the population per square kilometer is closest to which of the following?

- A. 4
 - B. 6
 - C. 20
 - D. 40
 - E. 60
-

Q4:

$$\frac{4.8(10^9)}{1.6(10^3)} =$$

- A. $30(10^5)$
- B. $[3(10)]^6$
- C. 30^5
- D. $30(10^6)$
- E. $3(10^{12})$

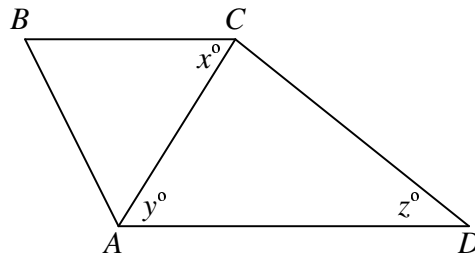
Q5:

If $vmt \neq 0$, is $v^2m^3t^{-4} > 0$?

- (1) $m > v^2$
- (2) $m > t^{-4}$

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
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Q6:



In the figure shown, line segment AD is parallel to line segment BC . What is the value of x ?

- (1) $y = 50$
- (2) $z = 40$

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
- D. **EACH** statement **ALONE** is sufficient.
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Q7:

A certain university will select 1 of 7 candidates eligible to fill a position in the mathematics department and 2 of 10 candidates eligible to fill 2 identical positions in the computer science department. If none of the candidates is eligible for a position in both departments, how many different sets of 3 candidates are there to fill the 3 positions?

- A. 42
- B. 70
- C. 140
- D. 165
- E. 315

Q8:

The points R , T , and U lie on a circle that has radius 4. If the length of arc RTU is $\frac{4\pi}{3}$, what is the length of line segment RU ?

- A. $\frac{4}{3}$
- B. $\frac{8}{3}$
- C. 3
- D. 4
- E. 6

Q9:

For all integers n , the function f is defined by $f(n) = a^n$, where a is a constant. What is the value of $f(1)$?

- (1) $f(2) = 100$
- (2) $f(3) = -1,000$

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
- D. **EACH** statement **ALONE** is sufficient.
- E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Q10:

What is the value of $(x - y)^4$?

- (1) The product of x and y is 7.
- (2) x and y are integers.

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
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Q11:

Mary persuaded n friends to donate \$500 each to her election campaign, and then each of these n friends persuaded n more people to donate \$500 each to Mary's campaign. If no one donated more than once and if there were no other donations, what was the value of n ?

- (1) The first n people donated $\frac{1}{16}$ of the total amount donated.
(2) The total amount donated was \$120,000.

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
D. **EACH** statement **ALONE** is sufficient.
E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.
-

Q12:

When n liters of fuel was added to a tank that was already $\frac{1}{3}$ full, the tank was filled to $\frac{7}{9}$ of its capacity. In terms of n , what is the capacity of the tank, in liters?

- A. $\frac{10}{9}n$
B. $\frac{4}{3}n$
C. $\frac{3}{2}n$
D. $\frac{9}{4}n$
E. $\frac{7}{3}n$
-

Q13:

If n is a positive integer, what is the remainder when $3^{8n+3} + 2$ is divided by 5?

- A. 0
- B. 1
- C. 2
- D. 3
- E. 4

Q14:

Of all the students in a certain dormitory, $\frac{1}{2}$ are first-year students and the rest are second-year students. If $\frac{4}{5}$ of the first-year students have not declared a major and if the fraction of second-year students who have declared a major is 3 times the fraction of first-year students who have declared a major, what fraction of all the students in the dormitory are second-year students who have not declared a major?

- A. $\frac{1}{15}$
- B. $\frac{1}{5}$
- C. $\frac{4}{15}$
- D. $\frac{1}{3}$
- E. $\frac{2}{5}$

Q15:

If p is the product of the integers from 1 to 30, inclusive, what is the greatest integer k for which 3^k is a factor of p ?

- A. 10
- B. 12
- C. 14
- D. 16
- E. 18

Q16:

If x and y are positive, is $x^3 > y$?

- (1) $\sqrt{x} > y$
- (2) $x > y$

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
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Q17:

If x , y , and k are positive numbers such that $(\frac{x}{x+y})(10) + (\frac{y}{x+y})(20) = k$ and if $x < y$, which of the following could be the value of k ?

- A. 10
B. 12
C. 15
D. 18
E. 30
-

Q18:

What is the value of the integer k ?

- (1) $k + 3 > 0$
(2) $k^4 \leq 0$

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
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-

Q19:

Each of the 30 boxes in a certain shipment weighs either 10 pounds or 20 pounds, and average (arithmetic mean) weight of the boxes in the shipment is 18 pounds. If the average weight of the boxes in the shipment is to be reduced to 14 pounds by removing some of the 20-pound boxes, how many 20-pound boxes must be removed?

- A. 4
B. 6
C. 10
D. 20
E. 24

Q20:

Tom, Jane, and Sue each purchased a new house. The average (arithmetic mean) price of the three houses was \$120,000. What was the median price of the three houses?

- (1) The price of Tom's house was \$110,000.
- (2) The price of Jane's house was \$120,000.

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
 - B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
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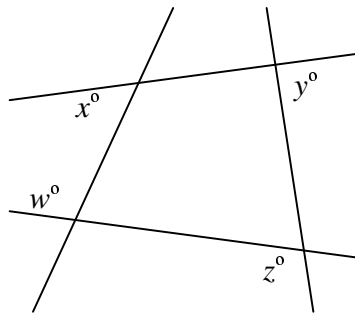
Q21:

The results of a certain experiment included 6 data values that were all multiples of the same number c , namely, c , $8c$, $2c$, $5c$, $4c$, and $4c$. Was the average (arithmetic mean) of the 6 data values greater than 8?

- (1) $c < 4$
- (2) $c > 2$

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 - B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
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-

Q22:



What is the value of $x + y$ in the figure above?

- (1) $w = 95$
- (2) $z = 125$

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
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Q23:

The age of the Earth is approximately 1.3×10^{17} seconds, and one year is approximately 3.2×10^7 seconds. Which of the following is closest to the age of the Earth in years?

- A. 2.5×10^9
B. 4.1×10^9
C. 1.9×10^{10}
D. 2.5×10^{11}
E. 4.1×10^{11}
-

Q24:

Four staff members at a certain company worked on a project. The amounts of time that the four staff members worked on the project were in the ratio 2 to 3 to 5 to 6. If one of the four staff members worked on the project for 30 hours, which of the following CANNOT be the total number of hours that the four staff members worked on the project?

- A. 80
B. 96
C. 160
D. 192
E. 240
-

Q25:

If the sequence $x_1, x_2, x_3, \dots, x_n, \dots$ is such that $x_1 = 3$ and $x_{n+1} = 2x_n - 1$ for $n \geq 1$, then $x_{20} - x_{19} =$

- A. 2^{19}
B. 2^{20}
C. 2^{21}
D. $2^{20} - 1$
E. $2^{21} - 1$
-

Q26:

If the units digit of the three-digit positive integer k is nonzero, what is the tens digit of k ?
(1) The tens digit of $k + 9$ is 3.

(2) The tens digit of $k + 4$ is 2.

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Q27:

$$2 + 2 \times 3 + 3 \times 4 =$$

- A. 20
- B. 24
- C. 40
- D. 60
- E. 96

Q28:

Three printing presses, R , S , and T , working together at their respective constant rates, can do a certain printing job in 4 hours. S and T , working together at their respective constant rates, can do the same job in 5 hours. How many hours would it take R , working alone at its constant rate, to do the same job?

- A. 8
- B. 10
- C. 12
- D. 15
- E. 20

Q29:

If y is the smallest positive integer such that 3,150 multiplied by y is the square of an integer, then y must be

- A. 2
- B. 5
- C. 6
- D. 7
- E. 14

Q30:

The total cost of an office dinner was shared equally by k of the n employees who attended the dinner. What was the total cost of the dinner?

- (1) Each of the k employees who shared the cost of the dinner paid \$19.
- (2) If the total cost of the dinner had been shared equally by $k + 1$ of the n employees who attended the dinner, each of the $k + 1$ employees would have paid \$18.

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
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Q31:

Three of the four vertices of a rectangle in the xy -coordinate plane are $(-3, 10)$, $(2, 10)$, and $(2, 1)$. What is the fourth vertex?

- A. $(-3, 1)$
- B. $(-3, 2)$
- C. $(-2, 10)$
- D. $(2, -3)$
- E. $(3, 10)$

Q32:

r	s	t
u	v	w
x	y	z

Each of the letters in the table above represents one of the numbers 1, 2, or 3, and each of these numbers occurs exactly once in each row and exactly once in each column. What is the value of r ?

- (1) $v + z = 6$
- (2) $s + t + u + x = 6$

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
 - B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
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-

Q33:

At a certain school, the ratio of the number of second graders to the number of fourth graders is 8 to 5, and the ratio of the number of first graders to the number of second graders is 3 to 4. If the ratio of the number of third graders to the number of fourth graders is 3 to 2, what is the ratio of the number of first graders to the number of third graders?

- A. 16 to 15
- B. 9 to 5
- C. 5 to 16
- D. 5 to 4
- E. 4 to 5

Q34:

In the xy -plane, what is the slope of line l ?

- (1) Line l does not intersect the line with equation $y = 1 - x$.
- (2) Line l intersects the line with equation $y = x - 1$.

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
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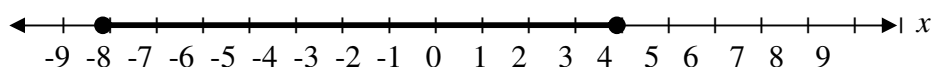
Q35:

Guy's net income equals his gross income minus his deductions. By what percent did Guy's net income change on January 1, 1989, when both his gross income and his deductions increased?

- (1) Guy's gross income increased by 4 percent on January 1, 1989.
- (2) Guy's deductions increased by 15 percent on January 1, 1989.

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
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Q36:



On the number line, the shaded interval is the graph of which of the following inequalities?

- A. $|x| \leq 4$
- B. $|x| \leq 8$
- C. $|x - 2| \leq 4$
- D. $|x - 2| \leq 6$
- E. $|x + 2| \leq 6$

Q37:

Of the 500 business people surveyed, 78 percent said that they use their laptop computers at home, 65 percent said that they use them in hotels, and 52 percent said that they use them both at home and in hotels. How many of the business people surveyed said that they do not use their laptop computers either at home or in hotels?

- A. 45
- B. 55
- C. 65
- D. 95
- E. 130

PART TWO

Q1:

During her presidency of the short-lived Woman's State Temperance Society (1852-1853), Elizabeth Cady Stanton, as she was a staunch advocate of liberalized divorce laws, scandalized many of her most ardent supporters in her suggestion that drunkenness should be made sufficient cause for divorce.

- A. as she was a staunch advocate of liberalized divorce laws, scandalized many of her most ardent supporters in her suggestion that drunkenness should be
- B. as she was a staunch advocate for liberalized divorce laws, scandalized many of her most ardent supporters by her suggestion of drunkenness being
- C. in being a staunch advocate for liberalized divorce laws, had scandalized many of her most ardent supporters with the suggestion of drunkenness being
- D. a staunch advocate of liberalized divorce laws, scandalized many of her most ardent supporters by suggesting that drunkenness be
- E. a staunch advocate of liberalized divorce laws, she scandalized many of her most ardent supporters in suggesting that drunkenness should be

Q2:

By merging its two publishing divisions, the company will increase their share of the country's \$21 billion book market from 6 percent to 10 percent, a market ranging from obscure textbooks to mass-market paperbacks.

- A. their share of the country's \$21 billion book market from 6 percent to 10 percent, a market ranging
- B. from 6 percent to 10 percent its share of the \$21 billion book market in the country, which ranges
- C. to 10 percent from 6 percent in their share of the \$21 billion book market in the country, a market ranging
- D. in its share, from 6 percent to 10 percent, of the \$21 billion book market in the country, which ranges
- E. to 10 percent from 6 percent its share of the country's \$21 billion book market, which ranges

Q3:

A product that represents a clear technological advance over competing products can generally command a high price. Because **technological advances tend to be quickly surpassed** and companies want to make large profits while they still can, many companies charge the greatest price the market will bear when they have such a product. But **large profits on the new product will give competitors a strong incentive to quickly match the new product's capabilities**. Consequently, the strategy to maximize overall profit from a new product is to charge less than the greatest possible price.

In the argument above, the two portions in **boldface** play which of the following roles?

- A. The first is an assumption that forms the basis for a course of action that the argument criticizes; the second presents the course of action endorsed by the argument.
- B. The first is a consideration raised to explain the appeal of a certain strategy; the second is a consideration raised to call into question the wisdom of adopting that strategy.
- C. The first is an assumption that has been used to justify a certain strategy; the second is a consideration that is used to cast doubt on that assumption.
- D. The first is a consideration raised in support of a strategy the argument endorses; the second presents grounds in support of that consideration.
- E. The first is a consideration raised to show that adopting a certain strategy is unlikely to achieve the intended effect; the second is presented to explain the appeal of that strategy.

Q4 to Q6:

The fields of antebellum (pre-Civil War) political history and women's history use separate sources and focus
Line on separate issues. Political histori-

- (5) ans, examining sources such as voting records, newspapers, and politicians' writings, focus on the emergence in the 1840's of a new "American political nation," and since women were neither voters nor politicians, they receive little discussion. Women's historians, meanwhile, have shown little interest in the subject of party politics, instead drawing on personal papers, legal records
- (10) such as wills, and records of female associations to illuminate women's domestic lives, their moral reform activities, and the emergence of the woman's rights movement.
- (15) However, most historians have underestimated the extent and significance of women's political allegiance in the antebellum period. For example, in the presidential election campaigns of the 1840's, the Virginia Whig party strove to win the allegiance of Virginia's women by inviting them to rallies and speeches. According to Whig propaganda, women who turned out at the
- (20) party's rallies gathered information that enabled them to mold party-loyal families, reminded men of moral values that transcended party loyalty, and conferred moral standing on the party.
- (25) Virginia Democrats, in response, began to make similar appeals to women as well. By the mid-1850's the inclusion of women in the rituals of party politics had become common-
- (30) place, and the ideology that justified such inclusion had been assimilated by the Democrats.
- (35)
- (40)

Q4:

The primary purpose of the passage as a whole is to

- A. examine the tactics of antebellum political parties with regard to women
- B. trace the effect of politics on the emergence of the woman's rights movement
- C. point out a deficiency in the study of a particular historical period
- D. discuss the ideologies of opposing antebellum political parties

- E. contrast the methodologies in two differing fields of historical inquiry
-

Q5:

According to the second paragraph of the passage (lines 20-42), Whig propaganda included the assertion that

- A. women should enjoy more political rights than they did
 - B. women were the most important influences on political attitudes within a family
 - C. women's reform activities reminded men of important moral values
 - D. women's demonstrations at rallies would influence men's voting behavior
 - E. women's presence at rallies would enhance the moral standing of the party
-

Q6:

According to the passage, which of the following was true of Virginia Democrats in the mid-1850's?

- A. They feared that their party was losing its strong moral foundation.
 - B. They believed that the Whigs' inclusion of women in party politics had led to the Whigs' success in many elections.
 - C. They created an ideology that justified the inclusion of women in party politics.
 - D. They wanted to demonstrate that they were in support of the woman's rights movement.
 - E. They imitated the Whigs' efforts to include women in the rituals of party politics.
-

Q7:

A recent review of pay scales indicates that CEO's now earn an average of 419 times more pay than blue-collar workers, compared to a ratio of 42 times in 1980.

- A. that CEO's now earn an average of 419 times more pay than blue-collar workers, compared to a ratio of 42 times
 - B. that, on average, CEO's now earn 419 times the pay of blue-collar workers, a ratio that compares to 42 times
 - C. that, on average, CEO's now earn 419 times the pay of blue-collar workers, as compared to 42 times their pay, the ratio
 - D. CEO's who now earn on average 419 times more pay than blue-collar workers, as compared to 42 times their pay, the ratio
 - E. CEO's now earning an average of 419 times the pay of blue-collar workers, compared to the ratio of 42 times
-

Q8:

The 32 species that make up the dolphin family are closely related to whales and in fact include the animal known as the killer whale, which can grow to be 30 feet long and is famous for its aggressive hunting pods.

- A. include the animal known as the killer whale, which can grow to be 30 feet long and is
- B. include the animal known as the killer whale, growing as big as 30 feet long and
- C. include the animal known as the killer whale, growing up to 30 feet long and being
- D. include the animal known as the killer whale, which can grow as big as 30 feet long and is
- E. include the animal known as the killer whale, which can grow to be 30 feet long and it is

Q9 to Q12:

- Over the last 150 years, large stretches of salmon habitat have been eliminated by human activity:
- Line* mining, livestock grazing, timber
(5) harvesting, and agriculture as well as recreational and urban development. The numerical effect is obvious: there are fewer salmon in degraded regions than in pristine ones; however, habitat loss also has the potential to reduce genetic diversity. This is most evident in cases where it results in the extinction of entire salmon populations. Indeed, most analysts believe that some kind of environmental degradation underlies the demise of many extinct salmon populations.
- (10)
- (15)
- (20) Although some rivers have been recolonized, the unique genes of the original populations have been lost.

- Large-scale disturbances in one locale also have the potential to alter the genetic structure of populations in neighboring areas, even if those areas have pristine habitats. Why? Although the homing instinct of salmon to their
- (25)
- (30)

- natal stream is strong, a fraction of the fish returning from the sea (rarely more than 15 percent) stray and spawn in nearby streams. Low levels of straying are crucial, since the process provides a source of novel genes and a mechanism by which a location can be repopulated should the fish there disappear. Yet high rates of straying can be problematic because misdirected fish may interbreed with the existing stock to such a degree that any local adaptations that are present become diluted. Straying rates remain relatively low when environmental conditions are stable, but can increase dramatically when streams suffer severe disturbance. The 1980 volcanic eruption of Mount Saint Helens, for example, sent mud and debris into several tributaries of the Columbia River. For the next couple of years, steelhead trout (a species included among the salmonids) returning from the sea to spawn were forced to find alternative streams. As a consequence, their rates of straying, initially 16 percent, rose to more than 40 percent overall.
- Although no one has quantified changes in the rate of straying as a result of the disturbances caused by humans, there is no reason to suspect that the effect would be qualitatively different than what was seen in the aftermath of the Mount Saint Helens eruption. Such a dramatic increase in straying from damaged areas to more pristine
- (35)
- (40)
- (45)
- (50)
- (55)
- (60)
- (65)
- (70)
- (75)

streams results in substantial gene flow, which can in turn lower the overall fitness of subsequent generations.

Q9:

The primary purpose of the passage is to

- A. argue against a conventional explanation for the extinction of certain salmon populations and suggest an alternative
 - B. correct a common misunderstanding about the behavior of salmon in response to environmental degradation caused by human activity
 - C. compare the effects of human activity on salmon populations with the effects of natural disturbances on salmon populations
 - D. differentiate the particular effects of various human activities on salmon habitats
 - E. describe how environmental degradation can cause changes in salmon populations that extend beyond a numerical reduction
-

Q10:

It can be inferred from the passage that the occasional failure of some salmon to return to their natal streams in order to spawn provides a mechanism by which

- A. pristine streams that are near polluted streams become polluted themselves
 - B. the particular adaptations of a polluted stream's salmon population can be preserved without dilution
 - C. the number of salmon in pristine habitats decreases relative to the number in polluted streams
 - D. an environmentally degraded stream could be recolonized by new salmon populations should the stream recover
 - E. the extinction of the salmon populations that spawn in polluted streams is accelerated
-

Q11:

According to the passage, human activity has had which of the following effects on salmon populations?

- A. An increase in the size of salmon populations in some previously polluted rivers
- B. A decline in the number of salmon in some rivers
- C. A decrease in the number straying salmon in some rivers
- D. A decrease in the gene flow between salmon populations that spawn in polluted streams and populations that spawn in pristine streams
- E. A decline in the vulnerability of some salmon populations to the effects of naturally occurring habitat destruction

Q12:

The author mentions the “aftermath of the Mount Saint Helens eruption” (lines 73-74) most likely in order to

- A. provide an example of the process that allows the repopulation of rivers whose indigenous salmon population has become extinct
- B. indicate the extent to which the disturbance of salmon habitat by human activity in one stream might affect the genetic structure of salmon populations elsewhere
- C. provide a standard of comparison against which the impact of human activity on the gene flow among salmon populations should be measured
- D. show how salmon’s homing instinct can be impaired as a result of severe environmental degradation of their natal streams
- E. show why straying rates in salmon populations remain generally low except when spawning streams suffer severe environmental disturbance

Q13:

In the United States, of the people who moved from one state to another when they retired, the percentage who retired to Florida has decreased by three percentage points over the past ten years. Since many local businesses in Florida cater to retirees, this decline is likely to have a noticeably negative economic effect on these businesses.

Which of the following, if true, most seriously weakens the argument?

- A. Florida attracts more people who move from one state to another when they retire than does any other state.
- B. The number of people who move out of Florida to accept employment in other states has increased over the past ten years.
- C. There are far more local businesses in Florida that cater to tourists than there are local businesses that cater to retirees.
- D. The total number of people who retired and moved to another state for their retirement has increased significantly over the past ten years.
- E. The number of people who left Florida when they retired to live in another state was greater last year than it was ten years ago.

Q14:

That the application of new technology can increase the productivity of existing coal mines is demonstrated by the case of Tribnia’s coal industry. Coal output per miner in Tribnia is double what it was five years ago, even though no new mines have opened.

Which of the following can be properly concluded from the statement about coal output per miner in the passage?

- A. If the number of miners working in Tribnian coal mines has remained constant in the past five years, Tribnia's total coal production has doubled in that period of time.
 - B. Any individual Tribnian coal mine that achieved an increase in overall output in the past five years has also experienced an increase in output per miner.
 - C. If any new coal mines had opened in Tribnia in the past five years, then the increase in output per miner would have been even greater than it actually was.
 - D. If any individual Tribnian coal mine has not increased its output per miner in the past five years, then that mine's overall output has declined or remained constant.
 - E. In Tribnia the cost of producing a given quantity of coal has declined over the past five years.
-

Q15:

In parts of South America, vitamin-A deficiency is a serious health problem, especially among children. In one region, agriculturists are attempting to improve nutrition by encouraging farmers to plant a new variety of sweet potato called SPK004 that is rich in beta-carotene, which the body converts into vitamin A. The plan has good chances of success, since sweet potato is a staple of the region's diet and agriculture, and the varieties currently grown contain little beta-carotene.

Which of the following, if true, most strongly supports the prediction that the plan will succeed?

- A. The growing conditions required by the varieties of sweet potato currently cultivated in the region are conditions in which SPK004 can flourish.
 - B. The flesh of SPK004 differs from that of the currently cultivated sweet potatoes in color and texture, so traditional foods would look somewhat different when prepared from SPK004.
 - C. There are no other varieties of sweet potato that are significantly richer in beta-carotene than SPK004 is.
 - D. The varieties of sweet potato currently cultivated in the region contain some important nutrients that are lacking in SPK004.
 - E. There are other vegetables currently grown in the region that contain more beta-carotene than the currently cultivated varieties of sweet potato do.
-

Q16:

Soaring television costs accounted for more than half the spending in the presidential campaign of 1992, a greater proportion than it was in any previous election.

- A. a greater proportion than it was
- B. a greater proportion than
- C. a greater proportion than they have been
- D. which is greater than was so
- E. which is greater than it has been

Q17:

The spacing of the four holes on a fragment of a bone flute excavated at a Neanderthal campsite is just what is required to play the third through sixth notes of the diatonic scale—the seven-note musical scale used in much of Western music since the Renaissance. Musicologists therefore hypothesize that the diatonic musical scale was developed and used thousands of years before it was adopted by Western musicians.

Which of the following, if true, most strongly supports the hypothesis?

- A. Bone flutes were probably the only musical instrument made by Neanderthals.
- B. No musical instrument that is known to have used a diatonic scale is of an earlier date than the flute found at the Neanderthal campsite.
- C. The flute was made from a cave-bear bone and the campsite at which the flute fragment was excavated was in a cave that also contained skeletal remains of cave bears.
- D. Flutes are the simplest wind instrument that can be constructed to allow playing a diatonic scale.
- E. The cave-bear leg bone used to make the Neanderthal flute would have been long enough to make a flute capable of playing a complete diatonic scale.

Q18:

It is illegal to advertise prescription medications in Hedland except in professional medical journals or by mail directly to physicians. A proposed law would allow general advertising of prescription medications. Opponents object that, in general, laypersons lack the specialized knowledge to evaluate such advertisements and might ask their physicians for inappropriate medications. But since physicians have the final say as to whether to prescribe a medication for a patient, the objection provides no grounds for concern.

Which of the following would it be most useful to establish in order to evaluate the argument?

- A. Whether nonprescription medications can interact with and block the action of any prescription medications that could be advertised to the general public
- B. Whether most prescription medication advertisements directed at the general public would be advertisements for recently developed medications newly available by prescription
- C. Whether prescription medication advertisements directed at the general public would appear on television and radio as well as in print
- D. Whether physicians are more likely to pay attention to advertising directed to the general public than to advertising directed to physicians
- E. Whether physicians are likely to succumb to pressure from patients to prescribe inappropriate medications

Q19:

Recently physicians have determined that stomach ulcers are not caused by stress, alcohol, or rich foods, but a bacterium that dwells in the mucous lining of the stomach.

- A. not caused by stress, alcohol, or rich foods, but
- B. not caused by stress, alcohol, or rich foods, but are by
- C. caused not by stress, alcohol, or rich foods, but by
- D. caused not by stress, alcohol, and rich foods, but
- E. caused not by stress, alcohol, and rich foods, but are by

Q20:

Rivalling the pyramids of Egypt or even the ancient cities of the Maya as an achievement, the army of terra-cotta warriors created to protect Qin Shi Huang, China's first emperor, in his afterlife is more than 2,000 years old and took 700,000 artisans more than 36 years to complete them.

- A. took 700,000 artisans more than 36 years to complete them
- B. took 700,000 artisans more than 36 years to complete it
- C. took 700,000 artisans more than 36 years to complete
- D. 700,000 artisans took more than 36 years to complete
- E. to complete them too 700,000 artisans more than 36 years

Q21:

That twenty-one ceramic dog figurines were discovered during the excavating of a 1,000-year-old Hohokam village in Tempe, Arizona, has nearly doubled the number of these artifacts known to exist.

- A. That twenty-one ceramic dog figurines were discovered during the excavating
- B. Twenty-one ceramic dog figurines discovered at the excavation
- C. Discovering twenty-one ceramic dog figurines at the excavating
- D. Ceramic dog figurines, twenty-one of which were discovered during excavating
- E. The discovery of twenty-one ceramic dog figurines during the excavation

Q22:

City Official: At City Hospital, uninsured patients tend to have shorter stays and fewer procedures performed than do insured patients, even though insured patients, on average, have slightly less serious medical problems at the time of admission to the hospital than uninsured patients have. Critics of the hospital have concluded that **the uninsured patients are not receiving proper medical care.** However, **this conclusion is almost certainly false.** Careful investigation has recently shown two things: insured patients

have much longer stays in the hospital than necessary, and they tend to have more procedures performed than are medically necessary.

In the city official's argument, the two **boldface** portions play which of the following roles?

- A. The first states the conclusion of the city official's argument; the second provides support for that conclusion.
- B. The first is used to support the conclusion of the city official's argument; the second states that conclusion.
- C. The first was used to support the conclusion drawn by hospital critics; the second states the position that the city official's argument opposes.
- D. The first was used to support the conclusion drawn by hospital critics; the second provides support for the conclusion of the city official's argument.
- E. The first states the position that the city official's argument opposes; the second states the conclusion of the city official's argument.

Q23:

Past assessments of the Brazilian rain forest have used satellite images to tally deforested areas, where farmers and ranchers have clear-cut and burned all the trees, but such work has not addressed either logging, which is the removal of only selected trees, as well as surface fires, burning down individual trees but do not denude the forest.

- A. which is the removal of only selected trees, as well as surface fires, burning
- B. which removes only selected trees, or surface fires that burn
- C. which removes only selected trees, along with surface fires that burn
- D. removing only selected trees, or surface fires, burning
- E. removing only selected trees, as well as surface fires that burn

Q24:

By sucking sap from the young twigs of the hemlock tree, tree growth is retarded by the woolly adelgid, causing needles to change color from deep green to grayish green and to drop prematurely.

- A. tree growth is retarded by the woolly adelgid, causing needles to change color from deep green to grayish green and to drop
- B. tree growth is retarded by the woolly adelgid, and this causes the color of needles to change from deep green to grayish green, and their dropping
- C. the woolly adelgid retards tree growth, which causes needles to change color from deep green to grayish green, and dropping
- D. the woolly adelgid retards tree growth, causing needles to change color from deep green to grayish green and to drop
- E. the woolly adelgid retards tree growth, and this causes the color of needles to change from deep green to grayish green, and the their dropping

Q25 to Q28:

- Recently biologists have been interested in a tide-associated periodic behavior displayed by the diatom *Hantzschia virgata*, a microscopic golden-brown alga that inhabits that portion of a shoreline washed by tides (the intertidal zone). Diatoms of this species, sometimes called “commuter” diatoms, remain
- (5) burrowed in the sand during high tide, and emerge on the sand surface during the daytime low tide. Just before the sand is inundated by the rising tide, the diatoms burrow
- (10) again. Some scientists hypothesize that commuter diatoms know that it is low tide because they sense an environmental change, such as an alteration in temperature or a change
- (15) in pressure caused by tidal movement. However, when diatoms are observed under constant conditions in a laboratory, they still display periodic behavior, continuing to burrow on schedule for several weeks.
- (20) This indicates that commuter diatoms, rather than relying on environmental cues to keep time, possess an internal pacemaker or biological clock
- (25) that enables them to anticipate periodic changes in the environment. A commuter diatom has an unusually accurate biological clock, a consequence of the unrelenting
- (30) environmental pressures to which it is subjected; any diatoms that do not burrow before the tide arrives are washed away.
- (35)

- This is not to suggest that the
- (40) period of this biological clock is immutably fixed. Biologists have concluded that even though a diatom does not rely on the envi-

- ronment to keep time, environmental
- (45) factors—including changes in the tide’s hydrostatic pressure, salinity, mechanical agitation, and temperature—can alter the period of its biological clock according to
- (50) changes in the tidal cycle. In short, the relation between an organism’s biological clock and its environment is similar to that between a wristwatch and its owner: the owner cannot
- (55) make the watch run faster or slower, but can reset the hands. However, this relation is complicated in intertidal dwellers such as commuter diatoms by the fact that these organisms are
- (60) exposed to the solar-day cycle as well as to the tidal cycle, and sometimes display both solar-day and tidal periods in a single behavior. Commuter diatoms, for example,
- (65) emerge only during those low tides that occur during the day.
-

Q25:

The passage suggests which of the following about the accuracy of the commuter diatom’s biological clock?

- A. The accuracy of the commuter diatom’s biological clock varies according to changes in the tidal cycle.
 - B. The unusual accuracy that characterizes the commuter diatom’s biological clock is rare among intertidal species.
 - C. The commuter diatom’s biological clock is likely to be more accurate than the biological clock of a species that is subject to less intense environmental pressures.
 - D. The commuter diatom’s biological clock tends to be more accurate than the biological clocks of most other species because of the consistency of the tidal cycle.
 - E. The accuracy of the commuter diatom’s biological clock tends to fluctuate when the diatom is observed under variable laboratory conditions.
-

Q26:

The author of the passage compares the relationship between an organism’s biological clock and its environment to the relation between a wristwatch and its owner most probably in order to

- A. point out a fundamental difference between the function of biological clocks in organisms and the use of mechanical clocks by humans
- B. illustrate the way in which the period of an organism's biological clock can be altered by environmental factors
- C. suggest that there are important similarities between the biological clock in organisms such as the commuter diatom and the biological clock in humans
- D. support an argument regarding the methods used by certain organisms to counteract the influence of the environment on their biological clocks
- E. question the accuracy of the biological clock in organisms such as the commuter diatom

Q27:

According to the passage, the periodic behavior displayed by commuter diatoms under constant laboratory conditions is characterized by which of the following?

- A. Greater unpredictability than the corresponding behavior under natural conditions
- B. A consistent periodic schedule in the short term
- C. No difference over the long term from the corresponding behavior under natural conditions
- D. Initial variability caused by the constant conditions of the laboratory
- E. Greater sensitivity to environmental factors than is the case under natural conditions

Q28:

The primary purpose of the passage is to

- A. dispute the influence of environmental factors on the tide-associated behavioral rhythms displayed by the diatom *Hantzschia virgata*
- B. describe how certain tide-associated behavioral rhythms displayed by the diatom *Hantzschia virgata* have changed over time
- C. compare tide-associated behavioral rhythms to solar-day behavioral rhythms in the diatom *Hantzschia virgata*
- D. examine how certain biological and environmental influences affect the tide-associated behavioral rhythms displayed by the diatom *Hantzschia virgata*
- E. identify certain environmental factors that limit the effectiveness of the biological clock in the diatom *Hantzschia virgata*

Q29:

Faulty voting equipment, confusing ballots, voter error, and problems at polling places have been cited by a new study of the 2000 United States presidential election, which estimated that they did not count 4 million to 6 million of the 100 million votes cast.

- A. Faulty voting equipment, confusing ballots, voter error, and problems at polling places have been cited by a new study of the 2000 United States presidential election, which estimated that they did not count 4 million to 6 million of the 100 million votes cast.
- B. Citing faulty voting equipment, confusing ballots, voter error, and problems at polling places, a new study of the 2000 United States presidential election has estimated that 4 million to 6 million of the 100 million votes cast were not counted.
- C. Citing faulty voting equipment, confusing ballots, voter error, and problems at polling places, 4 million to 6 million of the 100 million votes cast were not counted in the 2000 United States presidential election, a new study estimates.
- D. A new study has cited faulty voting equipment, confusing ballots, voter error, and problems at polling places in estimating that 4 million to 6 million of the 100 million votes that were cast had not been counted in the 2000 United States presidential election.
- E. A new study of the 2000 United States presidential election, citing faulty voting equipment, confusing ballots, voter error, and problems at polling places, has estimated 4 million to 6 million votes had not been counted of the 100 million votes cast.

Q30:

The ancient Anasazi harvested such native desert vegetation as the purple-flowered bee plant, what they now commonly call wild spinach in northern Arizona and other parts of the southwestern United States.

- A. what they now commonly call
- B. a plant that they now commonly call
- C. now commonly called
- D. and is now commonly called
- E. which it is now commonly called

Q31:

Which of the following most logically completes the argument below?

Davison River farmers are currently deciding between planting winter wheat this fall or spring wheat next spring. Winter wheat and spring wheat are usually about equally profitable. Because of new government restrictions on the use of Davison River water for irrigation, per acre yields for winter wheat, though not for spring wheat, would be much lower than average. Therefore, planting spring wheat will be more profitable than planting winter wheat, since _____.

- A. the smaller-than-average size of a winter wheat harvest this year would not be compensated for by higher winter wheat prices

- B. new crops of spring wheat must be planted earlier than the time at which standing crops of winter wheat are ready to be harvested
- C. the spring wheat that farmers in the Davison River region plant is well adapted to the soil of the region
- D. spring wheat has uses that are different from those of winter wheat
- E. planting spring wheat is more profitable than planting certain other crops, such as rye

Q32:

To develop more accurate population forecasts, demographers have to know a great deal more than now about the social and economic determinants of fertility.

- A. have to know a great deal more than now about the social and economic
- B. have to know a great deal more than they do now about the social and economical
- C. would have to know a great deal more than they do now about the social and economical
- D. would have to know a great deal more than they do now about the social and economic
- E. would have to know a great deal more than now about the social and economical

Q33:

A company plans to develop a prototype weeding machine that uses cutting blades with optical sensors and microprocessors that distinguish weeds from crop plants by differences in shade of color. The inventor of the machine claims that it will reduce labor costs by virtually eliminating the need for manual weeding.

Which of the following is a consideration in favor of the company's implementing its plan to develop the prototype?

- A. There is a considerable degree of variation in shade of color between weeds of different species.
- B. The shade of color of some plants tends to change appreciably over the course of their growing season.
- C. When crops are weeded manually, overall size and leaf shape are taken into account in distinguishing crop plants from weeds.
- D. Selection and genetic manipulation allow plants of virtually any species to be economically bred to have a distinctive shade of color without altering their other characteristics.
- E. Farm laborers who are responsible for the manual weeding of crops carry out other agricultural duties at times in the growing season when extensive weeding is not necessary.

Q34:

Although people in France consume fatty foods at a rate comparable to the United States, their death rates from heart disease are far lower in France.

- A. people in France consume fatty foods at a rate comparable to the United States, their
- B. people in France and the United States consume fatty foods at about the same rate, the
- C. fatty foods are consumed by people in France at a comparable rate to the United States's, their
- D. the rate of fatty foods consumed in France and the United States is about the same, the
- E. the rate of people consuming fatty foods is about the same in France and the United States, the

Q35 to Q37:

- In corporate purchasing, competitive scrutiny is typically limited to suppliers of items that are directly related to end products.
- Line* (5) With “indirect” purchases (such as computers, advertising, and legal services), which are not directly related to production, corporations often favor “supplier partnerships”
- (10) (arrangements in which the purchaser forgoes the right to pursue alternative suppliers), which can inappropriately shelter suppliers from rigorous competitive scrutiny
- (15) that might afford the purchaser economic leverage. There are two independent variables—availability of alternatives and ease of changing suppliers—that companies should
- (20) use to evaluate the feasibility of subjecting suppliers of indirect purchases to competitive scrutiny. This can create four possible situations.
- (25) In Type 1 situations, there are many alternatives and change is relatively easy. Open pursuit of alternatives—by frequent competitive bidding, if possible—will
- (30) likely yield the best results. In

- Type 2 situations, where there are many alternatives but change is difficult—as for providers of employee health-care benefits—it is important to continuously test the market and use the results to secure concessions from existing suppliers. Alternatives provide a credible threat to suppliers, even if the ability to switch is constrained. In Type 3 situations, there are few alternatives, but the ability to switch without difficulty creates a threat that companies can use to negotiate concessions from existing suppliers. In Type 4 situations, where there are few alternatives and change is difficult, partnerships may be unavoidable.
- (35)
- (40)
- (45)

Q35:

Which of the following best describes the relation of the second paragraph to the first?

- A. The second paragraph offers proof of an assertion made in the first paragraph.
- B. The second paragraph provides an explanation for the occurrence of a situation described in the first paragraph.
- C. The second paragraph discusses the application of a strategy proposed in the first paragraph.
- D. The second paragraph examines the scope of a problem presented in the first paragraph.
- E. The second paragraph discusses the contradictions inherent in a relationship described in the first paragraph.

Q36:

Which of the following can be inferred about supplier partnerships, as they are described in the passage?

- A. They cannot be sustained unless the goods or services provided are available from a large number of suppliers.
- B. They can result in purchasers paying more for goods and services than they would in a competitive-bidding situation.
- C. They typically are instituted at the urging of the supplier rather than the purchaser.
- D. They are not feasible when the goods or services provided are directly related to the purchasers' end products.

- E. They are least appropriate when the purchasers' ability to change suppliers is limited.

Q37:

According to the passage, which of the following factors distinguishes an indirect purchase from other purchases?

- A. The ability of the purchasing company to subject potential suppliers of the purchased item to competitive scrutiny
- B. The number of suppliers of the purchased item available to the purchasing company
- C. The methods of negotiation that are available to the purchasing company
- D. The relationship of the purchased item to the purchasing company's end product
- E. The degree of importance of the purchased item in the purchasing company's business operations

Q38:

Retail sales rose 8/10 of 1 percent in August, intensifying expectations that personal spending in the July-September quarter more than doubled that of the 1.4 percent growth rate in personal spending for the previous quarter.

- A. that personal spending in the July-September quarter more than doubled that of
- B. that personal spending in the July-September quarter would more than double
- C. of personal spending in the July-September quarter, that it more than doubled
- D. of personal spending in the July-September quarter, more than doubling that of
- E. of personal spending in the July-September quarter, that it would more than double that of

Q39:

Which of the following most logically completes the passage below?

Heavy rains during Centralia's corn planting season prevented some farmers there from planting corn. It is now the planting season for soybeans, another of Centralia's principal crops, and those fields originally intended for corn are dry enough for planting. Nonetheless, even though soybean prices are unusually high at present, the farmers will leave most of these fields empty rather than plant them with soybeans, since _____.

- A. the extensive rains have led to an increase in the price of corn
- B. some Centralian farmers anticipate serious financial losses due to the extremely wet spring planting season
- C. chemicals that were used to prepare the fields for corn planting would stunt the growth of soybeans

- D. the majority of Centralia's corn farmers were able to plant corn as they had intended, despite the wet planting season
 - E. many Centralian farmers grow both corn and soybeans
-

Q40:

Until now, only injectable vaccines against influenza have been available. Parents are reluctant to subject children to the pain of injections, but adults, who are at risk of serious complications from influenza, are commonly vaccinated. A new influenza vaccine, administered painlessly in a nasal spray, is effective for children. However, since children seldom develop serious complications from influenza, no significant public health benefit would result from widespread vaccination of children using the nasal spray.

Which of the following is an assumption on which the argument depends?

- A. Any person who has received the injectable vaccine can safely receive the nasal-spray vaccine as well.
 - B. The new vaccine uses the same mechanism to ward off influenza as injectable vaccines do.
 - C. The injectable vaccine is affordable for all adults.
 - D. Adults do not contract influenza primarily from children who have influenza.
 - E. The nasal spray vaccine is not effective when administered to adults.
-

Q41:

Leaching, the recovery of copper from the drainage water of mines, as a method of the extraction of minerals, it was well established as early as the eighteenth century, but until about 25 years ago miners did not realize that bacteria take an active part in the process.

- A. as a method of the extraction of minerals, it was well established
 - B. as a method of the extraction of minerals well established
 - C. was a well-established method of mineral extraction
 - D. was a well-established method of extracting mineral that was
 - E. had been a method of mineral extraction, well established
-
-

SET TWO

PART ONE

Q1:

The population of City X is 50 percent of the population of City Y. The population of City X is what percent of the total population of City X and City Y?

- F. 25%
 - G. $(33 \frac{1}{3})\%$
 - H. 40%
 - I. 50%
 - J. $(66 \frac{2}{3})\%$
- -----

Q2:

What is the greatest prime factor of $2^{100} - 2^9$?

- A. 2
 - B. 3
 - C. 5
 - D. 7
 - E. 11
- -----

Q3:

How many liters of apple juice were added to the cranberry juice in a certain container?

- (1) The amount of apple juice that was added was $\frac{3}{2}$ the amount of cranberry juice in the container.
- (2) There were 5 liters of cranberry juice in the container.

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
 - B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
 - C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
 - D. **EACH** statement **ALONE** is sufficient.
 - E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.
- -----

Q4:

In a demographic study, the population and total income of a certain region were estimated from other data, and both estimates had lower and upper limits. At the time of the estimates, was the per capita income for the region greater than \$16,500?

- (1) The lower limit for the estimate of the population was 330,000 people.
- (2) The lower limit for the estimate of the total income was \$5,500,000,000.

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
- D. **EACH** statement **ALONE** is sufficient.
- E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Q5:

Is $|x| < 1$?

- (1) $|x + 1| = 2|x - 1|$
- (2) $|x - 3| \neq 0$

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
- D. **EACH** statement **ALONE** is sufficient.
- E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Q6:

A box contains 10 light bulbs, fewer than half of which are defective. Two bulbs are to be drawn simultaneously from the box. If n of the bulbs in box are defective, what is the value of n ?

- (1) The probability that the two bulbs to be drawn will be defective is $1/15$.
- (2) The probability that one of the bulbs to be drawn will be defective and the other will not be defective is $7/15$.

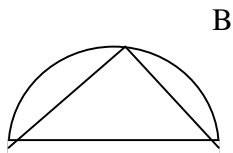
- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
- D. **EACH** statement **ALONE** is sufficient.
- E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Q7:

There are 11 women and 9 men in a certain club. If the club is to select a committee of 2 women and 2 men, how many different such committees are possible?

- A. 120
 - B. 720
 - C. 1,060
 - D. 1,520
 - E. 1,980
- -----

Q8:



In the figure shown, the triangle is inscribed in the semicircle. If the length of line segment AB is 8 and the length of line segment BC is 6, what is the length of arc ABC?

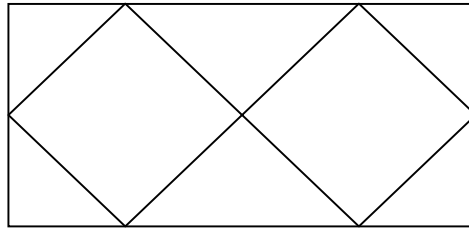
- A. 15π
 - B. 12π
 - C. 10π
 - D. 7π
 - E. 5π
- -----

Q9:

If $5x = 2y$ and $xy \neq 0$, then is what percent of y ?

- A. 2%
 - B. 4%
 - C. 10%
 - D. 40%
 - E. 50%
- -----

Q10:



In the figure shown, two identical squares are inscribed in the rectangle. If the perimeter of the rectangle is $18\sqrt{2}$, then what is the perimeter of each square?

- A. $8\sqrt{2}$
- B. 12
- C. $12\sqrt{2}$
- D. 16
- E. 18

Q11:

The product of the units digit, the tens digit, and the hundreds digit of the positive integer m is 96. What is the units digit of m ?

- (1) m is odd.
- (2) The hundreds digit of m is 8.

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
- D. **EACH** statement **ALONE** is sufficient.
- E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Q12:

Division R of Company Q has 1,000 employees. What is the average (arithmetic mean) annual salary of the employees at Company Q?

- (1) The average annual salary of the employees in Division R is \$30,000.
- (2) The average annual salary of the employees at Company Q who are not in Division R is \$35,000.

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.

D. **EACH** statement **ALONE** is sufficient.

E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Q13:

The sequence $a_1, a_2, \dots, a_n, \dots$ is such that $a_n = 2a_{n-1} - x$ for all positive integers $n \geq 2$ and for certain number x . If $a_5 = 99$ and $a_3 = 27$, what is the value of x ?

- A. 3
- B. 9
- C. 18
- D. 36
- E. 45

Q14:

Box W and Box V each contain several blue sticks and red sticks, and all of the red sticks have the same length. The length of each red stick is 18 inches less than the average length of the sticks in Box W and 6 inches greater than the average length of the sticks in Box V. What is the average (arithmetic mean) length, in inches, of the sticks in Box W minus the average length, in inches, of the sticks in Box V?

- A. 3
- B. 6
- C. 12
- D. 18
- E. 24

Q15:

If $x \neq 0$, then $(x + 1/x)^2 - (x - 1/x)^2 =$

- A. $1/x$
- B. x
- C. 1
- D. 2
- E. 4

Q16:

If m , p , and t are positive integers and $m < p < t$, is the product mpt an even integer?

$$\begin{aligned}(1) \quad & t - p = p - m \\(2) \quad & t - m = 16\end{aligned}$$

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
 B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
 C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
 D. **EACH** statement **ALONE** is sufficient.
 E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Q17:

If a certain coin is flipped, the probability that the coin will land heads is $\frac{1}{2}$. If the coin is flipped 5 times, what is the probability that it will land heads up on the first 3 flips and not on the last 2 flips?

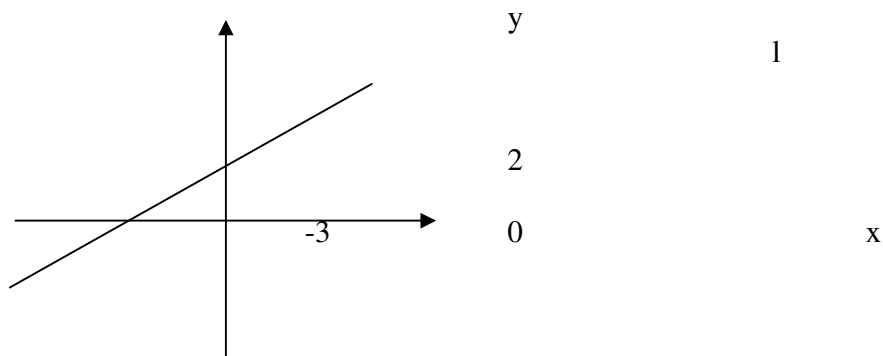
- A. $\frac{3}{5}$
 B. $\frac{1}{2}$
 C. $\frac{1}{5}$
 D. $\frac{1}{8}$
 E. $\frac{1}{32}$

Q18:

The function f is defined by $f(x) = \sqrt{x} - 10$ for all positive numbers x . If $u = f(t)$ for some positive numbers t and u . What is t in terms of u ?

- A. $\sqrt{u+10}$
 B. $(\sqrt{u} + 10)^2$
 C. $\sqrt{u^2+10}$
 D. $(u + 10)^2$
 E. $(u^2 + 10)^2$

Q19:



The graph of which of the following equations is a straight line that is parallel to line l in the figure above?

- A. $3y - 2x = 0$
- B. $3y + 2x = 0$
- C. $3y + 2x = 6$
- D. $2y - 3x = 6$
- E. $2y + 3x = -6$

Q20:

What is the total number of executives at Company P?

- (1) The number of male executives is $\frac{3}{5}$ the number of female executives.
- (2) There are 4 more female executives than male executives.

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
- D. **EACH** statement **ALONE** is sufficient.
- E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

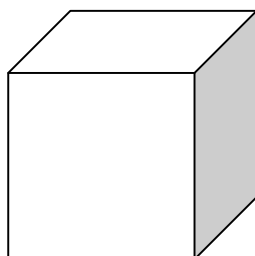
Q21:

The ratio of the number of boys to the number of girls in a certain school club is 3 : 4. If there are 5 more girls than boys in the club, how many girls are in the club?

- A. 7
- B. 8
- C. 12
- D. 15
- E. 20

Q22:

B



A

What is the volume of the cube above?

- (1) The surface area of the cube is 600 square inches.
(2) The length of diagonal AB is $10\sqrt{3}$ inches.

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
D. **EACH** statement **ALONE** is sufficient.
E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.
-
-

Q23:

If x and y are positive integers, and $x^3y^4 = 2,000$, which of the following is the value of xy ?

- A. 2
B. 4
C. 8
D. 10
E. 20
-
-

Q24:

If $ab = 1$, what is the value of $(axb)(ayb)$?

- (1) $ax = by = 2$
(2) $2xy = 4$

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
D. **EACH** statement **ALONE** is sufficient.
E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Q25:

Company P had 15 percent more employees in December than it had in January. If Company P had 460 employees in December, how many employees did it have in January?

- A. 391
 - B. 400
 - C. 410
 - D. 423
 - E. 445
-

Q26:

If positive integer x is a multiple of 6 and positive integer y is a multiple of 14, is xy a multiple of 105?

- (1) x is a multiple of 9.
- (2) y is a multiple of 25.

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
 - B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
 - C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
 - D. **EACH** statement **ALONE** is sufficient.
 - E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.
-

Q27:

R, S, T, and U are points on a line, and U is the midpoint of line segment ST. If the lengths of line segments RS, RT, and ST are 20, 4, and 24, respectively. What is the length of line segment RU?

- A. 6
 - B. 8
 - C. 12
 - D. 14
 - E. 16
-

Q28:

Each of the 30 boxes in a certain shipment with either 10 pounds or 20 pounds, and the average (arithmetic mean) weight of the boxes in the shipment is 18 pounds. If the average weight of the boxes in the shipment is to be reduced to 14 pounds by removing some of the 20-pound boxes, how many 20-pound boxes must be removed?

- A. 4
- B. 6
- C. 10
- D. 20
- E. 24

Q29:

The sum of all the integers k such that $-26 < k < 24$ is

- A. 0
- B. -2
- C. -25
- D. -49
- E. -51

Q30:

$$M = \{-6, -5, -4, -3, -2\}$$

$$T = \{-2, -1, 0, 1, 2, 3\}$$

If an integer is to be randomly selected from set M above and an integer is to be randomly selected from set T above, what is the probability that the product of the two integers will be negative?

- A. 0
- B. $\frac{1}{3}$
- C. $\frac{2}{5}$
- D. $\frac{1}{2}$
- E. $\frac{3}{5}$

Q31:

A small, rectangular park has a perimeter of 560 feet and a diagonal measurement of 200 feet. What is its area, in square feet?

- A. 19,200
- B. 19,600
- C. 20,000

- D. 20,400
- E. 20,800

Q32:

Seven different numbers are selected from the integers 1 to 100, and each number is divided by 7. What is the sum of the remainders?

- (1) The range of the seven remainders is 6.
- (2) The seven numbers selected are consecutive integers.

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
- D. **EACH** statement **ALONE** is sufficient.
- E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Q33:

150, 200, 250, n

Which of the following could be the median of the 4 integers listed above?

- I. 175
 - II. 215
 - III. 235
-
- A. I only
 - B. II only
 - C. I and II only
 - D. II and III only
 - E. I, II, and III

Q34:

A certain company that sells only cars and trucks reported that revenues from car sales in 1997 were down 11 percent from 1996 and revenues from truck sales in 1997 were up 7 percent from 1996. If total revenues from car sales and truck sales in 1997 were up 1 percent from 1996, what is the ratio of revenue from car sales in 1996 to revenue from truck sales in 1996?

- A. 1 : 2
- B. 4 : 5
- C. 1 : 1
- D. 3 : 2
- E. 5 : 3

Q35:

If $xy \neq 0$ and $x^2y^2 - xy = 6$, which of the following could be y in terms of x ?

- I. $1/(2x)$
- II. $-2/x$
- III. $3/x$

- A. I only
- B. II only
- C. I and II
- D. I and III
- E. II and III

Q36:

If a , b , c , and d are positive integers, is $(a/b)(c/d) > c/b$?

- (1) $c > b$
- (2) $a > d$

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
- D. **EACH** statement **ALONE** is sufficient.
- E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Q37:

In 1995 a certain store had 1,800 tools in stock that had been purchased for \$30 each. If 1,000 of these tools were sold in 1995 for \$40 each and the remaining 800 were sold in 1996 for \$50 each, how many greater was the gross profit on the tools sold in 1996 than the gross profit on those sold in 1995?

- A. \$0

- B. \$6,000
- C. \$8,000
- D. \$32,000
- E. \$40,000

PART TWO

Q1:

The four-million-year-old fossilized skeleton known as Lucy is so small compared with many other skeletons presumed to be of the same species, and so some paleontologists have argued that Lucy represents a different lineage.

- F. presumed to be of the same species, and so
- G. presumed to be of the same species that
- H. presumed that they are of the same species, and so
- I. that they have presumed to be of the same species, so that
- J. that they have presumed are of the same species, and

Q2:

Hunter: Hunters alone are blamed for the decline in Greenrock National Forest's deer population over the past ten years. Yet clearly, **black bears have also played an important role in this decline.** In the past ten years, the forest's protected black bear population has risen sharply, and examination of black bears found dead in the forest during the deer hunting season showed that a number of them had recently fed on deer.

In the hunter's argument, the boldface portion plays which of the following roles?

- A. It is the main conclusion of the argument.
- B. It is an objection that has been raised against the main conclusion of the argument.
- C. It is a judgment that the argument opposes.
- D. It is a finding that the argument seeks to explain.
- E. It provides evidence in support of the main conclusion of the argument.

Q3:

A study by the Ocean Wildlife Campaign urged states to undertake a number of remedies to reverse a decline in the shark population, which includes the establishment of size limits for shark catches, closing state waters for shark fishing during pupping season, and requiring commercial fishers to have federal shark permits.

- K. which includes the establishment of size limits for shark catches, closing
- L. which includes establishing limits to the size of sharks that can be caught, closing
- M. which include the establishment of size limits for shark catches, the closing of

- N. including establishing size limits for shark catches, closing
- O. including the establishing of limits to the size of sharks that are caught, the closing of

Q4:

Yellow jackets number among the 900 or so species of the world's social wasps, wasps living in a highly cooperative and organized society where they consist almost entirely of females—the queen and her sterile female workers.

- A. wasps living in a highly cooperative and organized society where they consist almost entirely of
- B. wasps that live in a highly cooperative and organized society consisting almost entirely of
- C. which means they live in a highly cooperative and organized society, almost all
- D. which means that their society is highly cooperative, organized, and it is almost entirely
- E. living in a society that is highly cooperative, organized, and it consists of almost all

Q5 to Q7:

- In 1994, a team of scientists led by David McKay began studying the meteorite ALH84001, which had been
- Line* discovered in Antarctica in 1984.
- (5) Two years later, the McKay team announced that ALH84001, which scientists generally agree originated on Mars, contained compelling evidence that life once existed on Mars.
 - (10) This evidence includes the discovery of organic molecules in ALH84001, the first ever found in Martian rock. Organic molecules—complex, carbon-based compounds—form the basis for
 - (15) terrestrial life. The organic molecules found in ALH84001 are polycyclic aromatic hydrocarbons, or PAH's. When microbes die, their organic material often decays into PAH's.
 - (20) Skepticism about the McKay team's claim remains, however. For example, ALH84001 has been on earth for 13,000 years, suggesting to some scientists that its PAH's might have

- (25) resulted from terrestrial contamination. However, McKay's team has demonstrated that the concentration of PAH's increases as one looks deeper into ALH84001, contrary to what one would expect from terrestrial contamination.
- (30) The skeptic's strongest argument, however, is that processes unrelated to organic life can easily produce all the evidence found by McKay's team, including PAH's. For example, star formation produces PAH's. Moreover, PAH's frequently appear in other meteorites, and no one attributes their presence to life processes.
- (35)
- (40) Yet McKay's team notes that the particular combination of PAH's in ALH84001 is more similar to the combinations produced by decaying organisms than to those originating from nonbiological processes.
-

Q5:

The passage asserts which of the following about the claim that ALH84001 originated on Mars?

- F. It was initially proposed by the McKay team of scientists.
 - G. It is not a matter of widespread scientific dispute.
 - H. It has been questioned by some skeptics of the McKay team's work.
 - I. It has been undermined by recent work on PAH's.
 - J. It is incompatible with the fact that ALH84001 has been on Earth for 13,000 years.
-

Q6:

The primary purpose of the passage is to

- F. describe new ways of studying the possibility that life once existed on Mars
 - G. revise a theory regarding the existence of life on Mars in light of new evidence
 - H. reconcile conflicting viewpoints regarding the possibility that life once existed on Mars
 - I. evaluate a recently proposed argument concerning the origin of ALH84001
 - J. describe a controversy concerning the significance of evidence from ALH84001
-

Q7:

The passage suggests that the fact that ALH84001 has been on earth for 13,000 years has been used by some scientists to support which of the following claims about ALH84001?

- F. ALH84001 may not have originated on Mars.
- G. ALH84001 contains PAH's that are the result of nonbiological processes.
- H. ALH84001 may not have contained PAH's when it landed on Earth.
- I. The organic molecules found in ALH84001 are not PAH's.
- J. The organic molecules found in ALH84001 could not be the result of terrestrial contamination.

Q8:

Which of the following most logically completes the passage?

Garnet and RenCo each provide health care for their employees. Garnet pays for both testing of its employees' cholesterol levels and treatment of high cholesterol. This policy saves Garnet money, since high cholesterol left untreated for many years leads to conditions that require very expensive treatment. However, RenCo does not have the same financial incentive to adopt such a policy, because _____.

- A. early treatment of high cholesterol does not entirely eliminate the possibility of a stroke later in life
- B. the mass media regularly feature stories encouraging people to maintain diets that are low in cholesterol
- C. RenCo has significantly more employees than Garnet has
- D. RenCo's employees are unlikely to have higher cholesterol levels than Garnet's employees
- E. the average length of time an employee stays with RenCo is less than it is with Garnet

Q9:

Studies in restaurants show that the tips left by customers who pay their bill in cash tend to be larger when the bill is presented on a tray that bears a credit-card logo. Consumer psychologists hypothesize that simply seeing a credit-card logo makes many credit-card holders willing to spend more because it reminds them that their spending power exceeds the cash they have immediately available.

Which of the following, if true, most strongly supports the psychologists' interpretation of the studies?

- A. The effect noted in the studies is not limited to patrons who have credit cards.
- B. Patrons who are under financial pressure from their credit-card obligations tend to tip less when presented with a restaurant bill on a tray with credit-card logo than when the tray has no logo.

- C. In virtually all of the cases in the studies, the patrons who paid bills in cash did not possess credit cards.
- D. In general, restaurant patrons who pay their bills in cash leave larger tips than do those who pay by credit card.
- E. The percentage of restaurant bills paid with given brand of credit card increases when that credit card's logo is displayed on the tray with which the bill is prepared.

Q10:

Antarctica receives more solar radiation than does any other place on Earth, yet the temperatures are so cold and the ice cap is reflective, so that little polar ice melts during the summer; otherwise, the water levels of the oceans would rise 250 feet and engulf most of the world's great cities.

- A. is reflective, so that little polar ice melts during the summer; otherwise,
- B. is so reflective that little of the polar ice melts during the summer; were it to do so,
- C. so reflective that little polar ice melts during the summer, or else
- D. reflective, so that little of the polar ice melts during the summer, or
- E. reflects so that little of the polar ice melts during the summer; if it did

Q11:

Retailers reported moderate gains in their November sales, as much because of their sales of a year earlier being so bad as that shoppers were getting a head start on buying their holiday gifts.

- A. of their sales of a year earlier being so bad as that
- B. of their sales a year earlier having been as bad as because
- C. of their sales a year earlier being as bad as because
- D. their sales a year earlier had been so bad as because
- E. their sales of a year earlier were as bad as that

Q12 to Q15:

In its 1903 decision in the case of *Lone Wolf v. Hitchcock*, the United States Supreme Court rejected the efforts of three Native American tribes to prevent the opening of tribal lands to non-Indian settlement without tribal consent. In his study of the *Lone Wolf* case, Blue Clark properly emphasizes the Court's assertion of a virtually unlimited unilateral power of Congress (the House of Represen-

- tatives and the Senate) over Native American affairs. But he fails to note the decision's more far-reaching
- (15) impact: shortly after *Lone Wolf*, the federal government totally abandoned negotiation and execution of formal written agreements with Indian tribes as a prerequisite for the implemen-
- (20) tation of federal Indian policy. Many commentators believe that this change had already occurred in 1871 when—following a dispute between the House and the Senate over which
- (25) chamber should enjoy primacy in Indian affairs—Congress abolished the making of treaties with Native American tribes. But in reality the federal government continued to nego-
- (30) tiate formal tribal agreements past the turn of the century, treating these documents not as treaties with sovereign nations requiring ratification by the Senate but simply as legislation to be
- (35) passed by both houses of Congress. The *Lone Wolf* decision ended this era of formal negotiation and finally did away with what had increasingly become the empty formality of obtaining tribal consent.
-

Q12:

The author of the passage is primarily concerned with

- A. identifying similarities in two different theories
 - B. evaluating a work of scholarship
 - C. analyzing the significance of a historical event
 - D. debunking a revisionist interpretation
 - E. exploring the relationship between law and social reality
-

Q13:

According to the passage, which of the following was true of relations between the federal government and Native American tribes?

- A. Some Native American tribes approved of the congressional action of 1871 because it simplified their dealings with the federal government.

- B. Some Native American tribes were more eager to negotiate treaties with the United States after the *Lone Wolf* decision.
- C. Prior to the *Lone Wolf* decision, the Supreme Court was reluctant to hear cases involving agreements negotiated between Congress and Native American tribes.
- D. Prior to 1871, the federal government sometimes negotiated treaties with Native American tribes.
- E. Following 1871, the House exercised more power than did the Senate in the government's dealings with Native American tribes.

Q14:

As an element in the argument presented by the author of the passage, the reference to Blue Clark's study of the *Lone Wolf* case serves primarily to

- A. point out that this episode in Native American history has received inadequate attention from scholars
- B. support the contention of the author of the passage that the *Lone Wolf* decision had a greater long-term impact than did the congressional action of 1871
- C. challenge the validity of the Supreme Court's decision confirming the unlimited unilateral power of Congress in Native American affairs
- D. refute the argument of commentators who regard the congressional action of 1871 as the end of the era of formal negotiation between the federal government and Native American tribes
- E. introduce a view about the *Lone Wolf* decision that the author will expand upon

Q15:

According to the passage, which of the following resulted from the *Lone Wolf* decision?

- A. The Supreme Court took on a greater role in Native American affairs.
- B. Native American tribes lost their legal standing as sovereign nations in their dealings with the federal government, but their ownership of tribal lands was confirmed.
- C. The federal government no longer needed to conclude a formal agreement with a Native American tribe in order to carry out policy decisions that affected the tribe.
- D. The federal government began to appropriate tribal lands for distribution to non-Indian settlers.
- E. Native American tribes were no longer able to challenge congressional actions by appealing to the Supreme Court.

Q16:

Economist: Tropicorp, which constantly seeks profitable investment opportunities, has been buying and clearing sections of tropical forest for cattle ranching, although pastures newly created there become useless for grazing after just a few years. The company has not gone into rubber tapping, even though **greater profits can be made from rubber**

tapping, which leaves the forest intact. Thus, some environmentalists conclude that **Tropicorp has not acted wholly out of economic self-interest**. However, these environmentalists are probably wrong. The initial investment required for a successful rubber-tapping operation is larger than that needed for a cattle ranch. Furthermore, there is a shortage of workers employable in rubber-tapping operations, and finally, taxes are higher on profits from rubber tapping than on profits from cattle ranching.

In the economist's argument, the two **boldfaced** portions play which of the following roles?

- A. The first supports the conclusion of the economist's argument; the second calls that conclusion into question.
- B. The first states the conclusion of the economist's argument; the second supports that conclusion.
- C. The first supports the environmentalists' conclusion; the second states that conclusion.
- D. The first states the environmentalists' conclusion; the second states the conclusion of the economist's argument.
- E. Each supports the conclusion of the economist's argument.

Q17:

Brochure: Help conserve our city's water supply. By converting the landscaping in your yard to a water-conserving landscape, you can greatly reduce your outdoor water use. A water-conserving landscape is natural and attractive, and it also saves you money.

Criticism: For most people with yards, the savings from converting to a water-conserving landscape cannot justify the expense of new landscaping, since typically the conversion would save less than twenty dollars on a homeowner's yearly water bills.

Which of the following, if true, provides the best basis for a rebuttal of the criticism?

- A. Even homeowners whose yards do not have water-conserving landscapes can conserve water by installing water-saving devices in their homes.
- B. A conventional landscape generally requires a much greater expenditure on fertilizer and herbicide than does a water-conserving landscape.
- C. A significant proportion of the residents of the city live in buildings that do not have yards.
- D. It costs no more to put in water-conserving landscaping than it does to put in conventional landscaping.
- E. Some homeowners use more water to maintain their yards than they use for all other purposes combined.

Q18:

Which of following most logically completes the argument?

The last members of a now-extinct species of a European wild deer called the giant deer lived in Ireland about 16,000 years ago. Prehistoric cave paintings in France depict this animal as having a large hump on its back. Fossils of this animal, however, do not show any hump. Nevertheless, there is no reason to conclude that the cave paintings are therefore inaccurate in this regard, since _____.

- A. some prehistoric cave paintings in France also depict other animals as having a hump
- B. fossils of the giant deer are much more common in Ireland than in France
- C. animal humps are composed of fatty tissue, which does not fossilize
- D. the cave paintings of the giant deer were painted well before 16,000 years ago
- E. only one currently existing species of deer has any anatomical feature that even remotely resembles a hump

Q19:

Possible long-term consequences of the “greenhouse effect,” the gradual warming of the Earth’s climate, may include melting the polar ice caps and a rising sea level.

- A. may include melting the polar ice caps and a rising sea level
- B. may include the melting of polar ice caps and the rising sea level
- C. may include polar ice caps that are melting and sea levels that are rising
- D. include melting the polar ice caps and sea levels that are rising
- E. include melting of the polar ice caps and a rise in sea level

Q20:

Shipping Clerk: The five specially ordered shipments sent out last week were sent out on Thursday. Last week, all of the shipments that were sent out on Friday consisted entirely of building supplies, and the shipping department then closed for the weekend. Four shipments were sent to Truax Construction last week, only three of which consisted of building supplies.

If the shipping clerk’s statements are true, which of the following must also be true?

- A. At least one of the shipments sent to Truax Construction last week was specially ordered.
- B. At least one of last week’s specially ordered shipments did not consist of building supplies.
- C. At least one of the shipments sent to Truax Construction was not sent out on Thursday of last week.
- D. At least one of the shipments that were sent out on Friday of last week was sent to Truax Construction.
- E. At least one of the shipments sent to Truax Construction last week was sent out before Friday.

Q21:

Data gathered by weather satellites has been analyzed by scientists, reporting that the Earth's northern latitudes have become about ten percent greener since 1980, due to more vigorous plant growth associated with warmer temperatures and higher levels of atmospheric carbon dioxide.

- A. Data gathered by weather satellites has been analyzed by scientists, reporting that the Earth's northern latitudes have
- B. Data gathered by weather satellites has been analyzed by scientists, and they report the Earth's northern latitudes as having
- C. After analyzing data gathered by weather satellites, scientists report that the Earth's northern latitudes have
- D. After analysis of data, gathered by weather satellites, scientists report the Earth's northern latitudes as having
- E. After data gathered by weather satellites was analyzed by scientists, who report that the Earth's northern latitudes have

Q22:

On account of a law passed in 1993, making it a crime punishable by imprisonment that a United States citizen hold gold in the form of bullion or coins, immigrants found that on arrival in the United States they had to surrender all of the gold they had brought with them.

- A. On account of a law passed in 1993, making it a crime punishable by imprisonment that a United States citizen hold
- B. With a law passed in 1933 that makes it a crime punishable by imprisonment that a United States citizen hold
- C. A law passed in 1933 that made it a crime punishable by imprisonment for a United States citizen holding
- D. Because of a law passed in 1933 making it a crime punishable by imprisonment for a United States citizen to hold
- E. Due to a law being passed in 1933 that makes it a crime punishable by imprisonment for a United States citizen to hold

Q23 to Q26:

Why firms adhere to or deviate from their strategic plans is poorly understood. However, theory and limited research suggest that the process through which such plans emerge may play a part. In particular, top management decision-sharing—

Line (5)

- consensus-oriented, team-based decision-making—may increase the
- (10) likelihood that firms will adhere to their plans, because those involved in the decision-making may be more committed to the chosen course of action, thereby increasing the likelihood that
- (15) organizations will subsequently adhere to their plans.

- However, the relationship between top management decision-sharing and adherence to plans may be affected
- (20) by a firm's strategic mission (its fundamental approach to increasing sales revenue and market share, and generating cash flow and short-term profits). At one end of the strategic
- (25) mission continuum, "build" strategies are pursued when a firm desires to increase its market share and is willing to sacrifice short-term profits to do so. At the other end, "harvest" strategies
- (30) are used when a firm is willing to sacrifice market share for short-term profitability and cash-flow maximization. Research and theory suggest that top management decision-sharing
- (35) may have a more positive relationship with adherence to plans among firms with harvest strategies than among firms with build strategies. In a study of strategic practices in several large
- (40) firms, managers in harvest strategy scenarios were more able to adhere to their business plans. As one of the managers in the study explained it, this is partly because "[t]ypically all a
- (45) manager has to do [when implementing a harvest strategy] is that which was done last year." Additionally, managers under harvest strategies may have fewer strategic options than do
- (50) those under build strategies; it may therefore be easier to reach agreement on a particular course of action through decision-sharing, which will

- in turn tend to promote adherence to plans. Conversely, in a “build” strategy scenario, individual leadership, rather than decision-sharing, may promote adherence to plans. Build strategies—which typically require leaders with strong personal visions for a firm’s future, rather than the negotiated compromise of the team-based decision—may be most closely adhered to when implemented in the context of a clear strategic vision of an individual leader, rather than through the practice of decision-sharing.
-

Q23:

Which of the following best describes the function of the first sentence (lines 17-24) of the second paragraph of the passage?

- A. To answer a question posed in the first sentence of the passage about why firms adopt particular strategic missions
 - B. To refute an argument made in the first paragraph about how top management decision-making affects whether firms will adhere to their strategic plans
 - C. To provide evidence supporting a theory introduced in the first paragraph about what makes firms adhere to or deviate from their strategic plans
 - D. To qualify an assertion made in the preceding sentence (lines 6-16) about how top management decision-making affects the likelihood that firms will adhere to their strategic plans
 - E. To explain a distinction relied on in the second paragraph (lines 17-68) regarding two different kinds of strategic missions
-

Q24:

The passage cites all of the following as differences between firms using build strategies and firms using harvest strategies EXCEPT

- A. their willingness to sacrifice short-term profits in order to build market share
 - B. their willingness to sacrifice building market share in order to increase short-term profitability
 - C. the number of strategic options available to their managers
 - D. the relative importance they assign to maximizing cash-flow
 - E. how likely they are to employ decision-sharing in developing strategic plans
-

Q25:

The primary purpose of the passage is to

- A. identify some of the obstacles that make it difficult for firms to adhere to their strategic business plans
- B. compare two different theories concerning why firms adhere to or deviate from their strategic plans
- C. evaluate the utility of top management decision-sharing as a method of implementing the strategic mission of a business
- D. discuss the respective advantages and disadvantages of build and harvest strategies among several large firms
- E. examine some of the factors that may affect whether or not firms adhere to their strategic plans

Q26:

The author includes the quotation in lines 44-47 of the passage most probably in order to

- F. lend support to the claim that firms utilizing harvest strategies may be more likely to adhere to their strategic plans
- G. suggest a reason that many managers of large firm prefer harvest strategies to build strategies
- H. provide an example of a firm that adhered to its strategic plan because of the degree of its managers' commitment
- I. demonstrate that managers implementing harvest strategies generally have better strategic options than do managers implementing build strategies
- J. give an example of a large firm that successfully implemented a harvest strategy

Q27:

Competition in the mid-nineteenth century by large western farms gradually caused farmers in Pennsylvania to turn to livestock raising, but before that it was predominantly grain-producing.

- A. Competition in the mid-nineteenth century by large western farms gradually caused farmers in Pennsylvania to turn to livestock raising, but before that it was predominantly grain-producing.
- B. Once predominantly a grain-producing state, competition in the mid-nineteenth century from large western farms gradually was causing Pennsylvania's farmers to turn to livestock raising.
- C. Pennsylvania's farmers were gradually caused to turn to livestock raising by competition from large western farms in the mid-nineteenth century, but before that it was predominantly a grain-producing state.
- D. It was once predominantly grain-producing, but competition in the mid-nineteenth century by large western farms was gradually causing Pennsylvania's farmers to turn to livestock raising.

- E. Pennsylvania was once a predominantly grain-producing state, but competition in the mid-nineteenth century from large western farms gradually caused the state's farmers to turn to livestock raising.
-

Q28:

The coyote is one of several recent ecological success stories: along with the white-tailed deer, the moose, and other species that are enlarging their natural domains, they have established themselves as supreme adapters in an era when the capability to adjust to the environmental changes wrought by human beings has created a whole new class of dominant large mammals.

- A. they have established themselves as supreme adapters in an era when the capability
 - B. they have established themselves as being supreme adapters in an era when being able
 - C. it has established itself as a supreme adapter in an era when to be able
 - D. it has established itself as being a supreme adapter in an era when its ability
 - E. it has established itself as a supreme adapter in an era when the ability
-

Q29:

Unlike the conviction held by many of her colleagues that genes were relatively simple and static, Barbara McClintock adhered to her own more complicated ideas about how genes might operate, and in 1983, at the age of 81, was awarded a Nobel Prize for her discovery that the genes in corn are capable of moving from one chromosomal site to another.

- A. Unlike the conviction held by many of her colleagues that genes were relatively simple and static
 - B. Although many of her colleagues were of the conviction of genes being relatively simple and static
 - C. Contrary to many of her colleagues being convinced that genes were relatively simple and static
 - D. Even though many of her colleagues were convinced that genes were relatively simple and static
 - E. Even with many of her colleagues convinced of genes being relatively simple and static
-

Q30:

Today's technology allows manufacturers to make small cars more fuel-efficient now than at any time in their production history.

- A. small cars more fuel-efficient now than at any time in their
- B. small cars that are more fuel-efficient than they were at any time in their

- C. small cars that are more fuel-efficient than those at any other time in
- D. more fuel-efficient small cars than those at any other time in their
- E. more fuel-efficient small cars now than at any time in

Q31:

Although most smoking-related illnesses are caused by inhaling the tar in tobacco smoke, it is addiction to nicotine that prevents most smokers from quitting. In an effort to decrease the incidence of smoking-related illnesses, lawmakers in Sandonia plan to reduce the average quantity of nicotine per cigarette by half over the next five years. Unfortunately, smokers who are already addicted to nicotine tend to react to such reductions by smoking correspondingly more cigarettes.

The information above most strongly supports which of the following predictions about the effects of implementing the Sandonian government's plan?

- A. The average quantity of tar inhaled by Sandonian smokers who are currently addicted to nicotine will probably not decrease during the next five years.
- B. Sandonian smokers who are not already addicted to nicotine will probably also begin to smoke more cigarettes during the next five years than they had previously.
- C. The annual number of Sandonian smokers developing smoking-related illnesses will probably decrease during the next five years.
- D. The proportion of Sandonians attempting to quit smoking who succeed in that attempt will probably decrease during the next five years.
- E. The number of Sandonians who quit smoking during the next five years will probably exceed the number who quit during the last five years.

Q32:

Newspaper editorial:

In an attempt to reduce the crime rate, the governor is getting tough on criminals and making prison conditions harsher. Part of this effort has been to deny inmates the access they formerly had to college-level courses. However, this action is clearly counter to the governor's ultimate goal, since after being released from prison, inmates who had taken such courses committed far fewer crimes overall than other inmates.

Which of the following is an assumption on which the argument depends?

- A. Not being able to take college-level courses while in prison is unlikely to deter anyone from a crime that he or she might otherwise have committed.
- B. Former inmates are no more likely to commit crimes than are members of the general population.
- C. The group of inmates who chose to take college-level courses were not already less likely than other inmates to commit crimes after being released.

- D. Taking high school level courses in prison has less effect on an inmate's subsequent behavior than taking college-level courses does.
- E. The governor's ultimate goal actually is to gain popularity by convincing people that something effective is being done about crime.

Q33:

Almost a decade after New York State passed laws to protect patients by reducing the grueling hours worked by medical residents, twelve hospitals have been investigated by state medical officials, finding that all twelve consistently break the laws, many residents work longer than 24 hours straight, and that more than half the surgical residents work more than 95 hours a week.

- A. twelve hospitals have been investigated by state medical officials, finding that all twelve consistently break the laws, many residents work longer than 24 hours straight, and that more than half the surgical residents work
- B. an investigation by state medical officials of twelve hospitals have found all twelve consistently breaking the laws, that many residents work longer than 24 hours straight, with more than half the surgical residents working
- C. an investigation of twelve hospitals by state medical officials has found that all twelve consistently break the laws, that many residents work longer than 24 hours straight, and that more than half the surgical residents work
- D. twelve hospitals were investigated by state medical officials who found all twelve breaking the laws, with many residents working longer than 24 hours straight, and more than half the surgical residents work
- E. an investigation by state medical officials has found that, of twelve hospitals, all twelve consistently break the laws, that many residents work longer than 24 hours straight, with more than half the surgical residents working

Q34:

Shoppers in sporting goods stores, unlike in department stores, do very little impulse shopping, not buying a pair of skis and a boomerang when they come in for a basketball, but they leave with a basketball only.

- A. in department stores, do very little impulse shopping, not buying a pair of skis and a boomerang when they come in for a basketball, but they leave with a basketball only
- B. in department stores, shop impulsively very little; someone who comes in for a basketball will leave with a basketball only and not also buy a pair of skis and a boomerang as well
- C. those in department stores, do very little impulse shopping, do not buy a pair of skis and a boomerang when they come in for a basketball, but leave with only a basketball

- D. those in department stores, do very little impulse shopping; someone who comes in for a basketball will leave with a basketball only and not buy a pair of skis and a boomerang as well
- E. department stores, shop impulsively very little; someone will not buy a pair of skis and a boomerang when they come in for a basketball but will leave with only a basketball

Q35 to Q37:

- Historians who study European women of the Renaissance try to measure “independence,” “options,” and other indicators of the degree to which the expression of women’s individuality was either permitted or suppressed. Influenced by Western individualism, these historians define a peculiar form of personhood: an innately bounded unit, autonomous and standing apart from both nature and society. An anthropologist, however, would contend that a person can be conceived in ways other than as an “individual.” In many societies a person’s identity is not intrinsically unique and self-contained but instead is defined within a complex web of social relationships.
- In her study of the fifteenth-century Florentine widow Alessandra Strozzi, a historian who specializes in European women of the Renaissance attributes individual intention and authorship of actions to her subject. This historian assumes that Alessandra had goals and interests different from those of her sons, yet much of the historian’s own research reveals that Alessandra acted primarily as a champion of her sons’ interests, taking their goals as her own. Thus Alessandra conforms more closely to the anthropologist’s notion that personal motivation is embedded in a social context. Indeed, one could argue that Alessandra did not distinguish her personhood from that of her sons. In Renaissance

Europe the boundaries of the conceptual self were not always firm and closed and did not necessarily coincide with the boundaries of the bodily self.

Q35:

The passage suggests that the historian mentioned in the second paragraph (lines 19-42) would be most likely to agree with which of the following assertions regarding Alessandra Strozzi?

- A. Alessandra was able to act more independently than most women of her time because she was a widow.
 - B. Alessandra was aware that her personal motivation was embedded in a social context.
 - C. Alessandra had goals and interests similar to those of many other widows in her society.
 - D. Alessandra is an example of a Renaissance woman who expressed her individuality through independent action.
 - E. Alessandra was exceptional because she was able to effect changes in the social constraints placed upon women in her society.
-

Q36:

It can be inferred that the author of the passage believes which of the following about the study of Alessandra Strozzi done by the historian mentioned in the second paragraph (lines 19-42)?

- A. Alessandra was atypical of her time and was therefore an inappropriate choice for the subject of the historian's research.
 - B. In order to bolster her thesis, the historian adopted the anthropological perspective on personhood.
 - C. The historian argues that the boundaries of the conceptual self were not always firm and closed in Renaissance Europe.
 - D. In her study, the historian reverts to a traditional approach that is out of step with the work of other historians of Renaissance Europe.
 - E. The interpretation of Alessandra's actions that the historian puts forward is not supported by much of the historian's research.
-

Q37:

In the first paragraph, the author of the passage mentions a contention that would be made by an anthropologist most likely in order to

- A. present a theory that will be undermined in the discussion of a historian's study later in the passage

- B. offer a perspective on the concept of personhood that can usefully be applied to the study of women in Renaissance Europe
 - C. undermine the view that the individuality of European women of the Renaissance was largely suppressed
 - D. argue that anthropologists have applied the Western concept of individualism in their research
 - E. lay the groundwork for the conclusion that Alessandra's is a unique case among European women of the Renaissance whose lives have been studied by historians
-

Q38:

Kate: The recent decline in numbers of the Tennessee warbler, a North American songbird that migrates each fall to coffee plantations in South America, is due to the elimination of the dense tree cover that formerly was a feature of most South American coffee plantations.

Scott: The population of the spruce budworm, the warbler's favorite prey in North America, has been dropping. This is a more likely explanation of the warbler's decline.

Which of the following, if true, most seriously calls Scott's hypothesis into question?

- A. The numbers of the Baltimore oriole, a songbird that does not eat budworms but is as dependent on South American coffee plantations as is the Tennessee warbler, are declining.
 - B. The spruce-budworm population has dropped because of a disease that can infect budworms but not Tennessee warblers.
 - C. The drop in the population of the spruce budworm is expected to be only temporary.
 - D. Many Tennessee warblers have begun migrating in the fall to places other than traditional coffee plantations.
 - E. Although many North American songbirds have declined in numbers, no other species has experienced as great a decline as has the Tennessee warbler.
-

Q39:

Minivans carry as many as seven passengers and, compared with most sport utility vehicles, cost less, get better gas mileage, allow passengers to get in and out more easily, and have a smoother ride.

- A. Minivans carry as many as seven passengers and, compared with most sport utility vehicles, cost less,
- B. Minivans, which carry as many as seven passengers, compared with most sport utility vehicles, they cost less,
- C. Minivans carry as many as seven passengers, in comparison with most sport utility vehicles, and have a lower cost, they

- D. Minivans, carrying as many as seven passengers, compared with most sport utility vehicles, cost less,
- E. Minivans, which carry as many as seven passengers, compared with most sport utility vehicles the cost is lower, and they

Q40:

Two centuries ago, Tufe Peninsula became separated from the mainland, isolating on the newly formed Tufe Island a population of Turfil sunflowers. This population's descendants grow to be, on average, 40 centimeters shorter than Turfil sunflowers found on the mainland. Tufe Island is significantly drier than Tufe Peninsula was. So the current average height of Tufe's Turfil sunflowers is undoubtedly at least partially attributable to changes in Tufe's environmental conditions.

Which of the following is an assumption on which the argument depends?

- A. There are no types of vegetation on Tufe Island that are known to benefit from dry conditions.
- B. There were about as many Turfil sunflowers on Tufe Peninsula two centuries ago as there are on Tufe Island today.
- C. The mainland's environment has not changed in ways that have resulted in Turfil sunflowers on the mainland growing to be 40 centimeters taller than they did two centuries ago.
- D. The soil on Tufe Island, unlike that on the mainland, lacks important nutrients that help Turfil sunflowers survive and grow tall in a dry environment.
- E. The 40-centimeter height difference between the Turfil sunflowers on Tufe Island and those on the mainland is the only difference between the two populations.

Q41:

In ancient Thailand, much of the local artisans' creative energy was expended for the creation of Buddha images and when they constructed and decorated the temples that enshrined them.

- A. much of the local artisans' creative energy was expended for the creation of Buddha images and when they constructed and decorated the temples that enshrined them
- B. much of the local artisans' creative energy was expended on the creation of Buddha images and on construction and decoration of the temples in which they were enshrined
- C. much of the local artisans' creative energy was expended on the creation of Buddha images as well as constructing and decoration of the temples in which they were enshrined
- D. creating images of Buddha accounted for much of the local artisans' creative energy, and also constructing and decorating the temples enshrining them

- E. the creating of Buddha images accounted for much of the local artisans' creative energy as well as construction and decoration of the temples that enshrined them

SET THREE

PART I

Q1:

A wire that weighs 24 kilograms is cut into two pieces so that one of the pieces weighs 16 kilograms and is 34 meters long. If the weight of each piece is proportional to its length, how many meters long is the other piece of wire?

- K. 8
- L. 11
- M. 13
- N. 17
- O. 20

Q2:

If a certain machine produces bolts at a constant rate, how many seconds will it take the machine to produce 300 bolts?

- (1) It takes the machine 56 seconds to produce 40 bolts.
- (2) It takes the machine 1.4 seconds to produce 1 bolt.

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
- D. **EACH** statement **ALONE** is sufficient.
- E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Q3:

If k , m , and p are integers, is $k - m - p$ odd?

- (1) k and m are even and p is odd.
- (2) k , m , and p are consecutive integers.

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
 - B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
 - C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
 - D. **EACH** statement **ALONE** is sufficient.
 - E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.
-

Q4:

If x is the product of the positive integers from 1 to 8, inclusive, and if i , k , m , and p are positive integers such that $x = 2^i 3^k 5^m 7^p$, then $i + k + m + p =$

- 4
- 7
- 8
- 11
- 12

Q5:

If a code word is defined to be a sequence of different letters chosen from the 10 letters $A, B, C, D, E, F, G, H, I$, and J , what is the ratio of the number of 5-letter code words to the number of 4-letter code words?

- A. 5 to 4
- B. 3 to 2
- C. 2 to 1
- D. 5 to 1
- E. 6 to 1

Q6:

If two copying machines work simultaneously at their respective constant rates, how many copies do they produce in 5 minutes?

- (1) One of the machines produces copies at the constant rate of 250 copies per minute.
- (2) One of the machines produces copies at twice the constant rate of the other machine.

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
- D. **EACH** statement **ALONE** is sufficient.
- E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Q7:

Is $xy > x^2y^2$?

- (1) $14x^2 = 3$
- (2) $y^2 = 1$

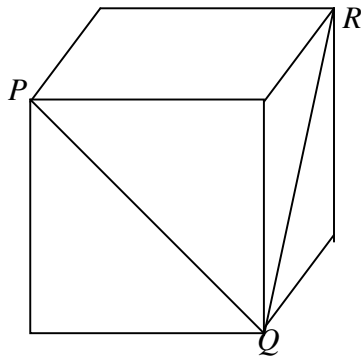
- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.

C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.

D. **EACH** statement **ALONE** is sufficient.

E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Q8:



For the cube shown above, what is the degree measure of $\angle PQR$?

- A. 30
- B. 45
- C. 60
- D. 75
- E. 90

Q9:

If an integer n is to be chosen at random from the integers 1 to 96, inclusive, what is the probability that $n(n + 1)(n + 2)$ will be divisible by 8?

- A. $\frac{1}{4}$
- B. $\frac{3}{8}$
- C. $\frac{1}{2}$
- D. $\frac{5}{8}$
- E. $\frac{3}{4}$

Q10:

A total of \$60,000 was invested for one year. Part of this amount earned simple annual interest at the rate of x percent per year, and the rest earned simple annual interest at the rate of y percent per year. If the total interest earned by the \$60,000 for that year was \$4,080, what is the value of x ?

(1) $x = \frac{3y}{4}$

- (2) The ratio of the amount that earned interest at the rate of x percent per year to the amount that earned interest at the rate of y percent per year was 3 to 2.

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
D. **EACH** statement **ALONE** is sufficient.
E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.
-

Q11:

If n and k are positive integers, is n divisible by 6?

(1) $n = k(k + 1)(k - 1)$

- (2) $k - 1$ is a multiple of 3.

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
D. **EACH** statement **ALONE** is sufficient.
E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.
-

Q12:

What was the cost of a certain telephone call?

- (1) The call lasted 8 minutes.

- (2) The cost of the first minute of the call was \$0.32, which was twice the cost of each minute of the call after the first.

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
D. **EACH** statement **ALONE** is sufficient.
E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.
-

Q13:

Company S produces two kinds of stereos: basic and deluxe. Of the stereos produced by Company S last month, $\frac{2}{3}$ were basic and the rest were deluxe. If it takes $\frac{7}{5}$ as many hours to produce a deluxe stereo as it does to produce a basic stereo, then the number of hours it took to produce the deluxe stereos last month was what fraction of the total number of hours it took to produce all the stereos?

- A. $\frac{7}{17}$
- B. $\frac{14}{31}$
- C. $\frac{7}{15}$
- D. $\frac{17}{35}$
- E. $\frac{1}{2}$

Q14:

$$99,999^2 - 1^2 =$$

- A. $10^{10} - 2$
- B. $(10^5 - 2)^2$
- C. $10^4(10^5 - 2)$
- D. $10^5(10^4 - 2)$
- E. $10^5(10^5 - 2)$

Q15:

Is $x^2 + y^2 > 6$?

- (1) $(x + y)^2 > 6$
- (2) $xy = 2$

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
 - B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
 - C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
 - D. **EACH** statement **ALONE** is sufficient.
 - E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.
-

Q16:

What is the probability that a student randomly selected from a class of 60 students will be a male who has brown hair?

- (1) One-half of the students have brown hair.
- (2) One-third of the students are males.

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
 - B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
 - C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
 - D. **EACH** statement **ALONE** is sufficient.
 - E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.
-

Q17:

The number of defects in the first five cars to come through a new production line are 9, 7, 10, 4, and 6, respectively. If the sixth car through the production line has either 3, 7, or 12 defects, for which of these values does the mean number of defects per car for the first six cars equal the median?

- IV. 3
 - V. 7
 - VI. 12
-
- A. I only
 - B. II only
 - C. III only
 - D. I and III only
 - E. I, II, and III
-

Q18:

Which of the following is equal to $(2^k)(5^{k-1})$?

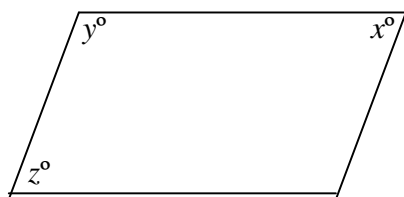
- A. $2(10^k - 1)$
 - B. $5(10^k - 1)$
 - C. 10^k
 - D. $2(10^k)$
 - E. 10^{2k-1}
-

Q19:

If $\sqrt{x} = 25$, then $x^3 - x^2 =$

- A. 5^{12}
- B. 5^{20}
- C. $6(5^5)$
- D. $5^4(5^2 + 1)$
- E. $5^8(5^4 - 1)$

Q20:

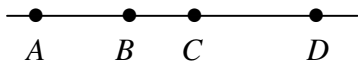


In the parallelogram shown, what is the value of x ?

- (1) $y = 2x$
- (2) $x + z = 120$

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
- D. **EACH** statement **ALONE** is sufficient.
- E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Q21:



Note: Figure not drawn to scale.

On line segment AD shown, $AB = \frac{1}{2}CD$ and $BC = 10$. If $AD = 100$, then $CD =$

- A. 40**
- B. 45**
- C. 50**
- D. 55**
- E. 60**

Q22:

At a garage sale, all of the prices of the items sold were different. If the price of a radio sold at the garage sale was both the 15th highest price and the 20th lowest price among the prices of the items sold, how many items were sold at the garage sale?

- A. 33
- B. 34
- C. 35
- D. 36
- E. 37

Q23:

If $x \neq 0$, is $\frac{x^2}{|x|} < 1$?

- (1) $x < 1$
- (2) $x > -1$

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
- D. **EACH** statement **ALONE** is sufficient.
- E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Q24:

At a certain company, each employee has a salary grade s that is at least 1 and at most 5. Each employee receives an hourly wage p , in dollars, determined by the formula $p = 9.50 + 0.25(s - 1)$. An employee with a salary grade of 5 receives how many more dollars per hour than an employee with a salary grade of 1?

- A. \$0.50
- B. \$1.00
- C. \$1.25
- D. \$1.50
- E. \$1.75

Q25:

In the sequence 1, 2, 4, 8, 16, 32, ..., each term after the first is twice the previous term. What is the sum of the 16th, 17th, and 18th terms in the sequence?

- A. 2^{18}
- B. $3(2^{17})$
- C. $7(2^{16})$
- D. $3(2^{16})$
- E. $7(2^{15})$

Q26:

In the xy -plane, the line with equation $ax + by + c = 0$, where $abc \neq 0$, has slope $\frac{2}{3}$. What

is the value of b ?

- (1) $a = 4$
- (2) $c = -6$

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
- D. **EACH** statement **ALONE** is sufficient.
- E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Q27:

Of the cans of peaches inspected yesterday at a certain plant, 1.5 percent failed to pass inspection. Of the cans that failed inspection, $\frac{5}{6}$ were incorrectly labeled and the rest were dented. If all of the cans that were incorrectly labeled or dented failed inspection, how many of the cans of peaches inspected yesterday at the plant were dented?

- (1) 450 of the cans of peaches inspected yesterday at the plant failed to pass inspection.
- (2) 29,550 of the cans of peaches inspected yesterday at the plant passed inspection.

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
- D. **EACH** statement **ALONE** is sufficient.
- E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Q28:

A car traveling at a certain constant speed takes 2 seconds longer to travel 1 kilometer than it would take to travel 1 kilometer at 75 kilometers per hour. At what speed, in kilometers per hour, is the car traveling?

- A. 71.5
- B. 72
- C. 72.5
- D. 73
- E. 73.5

Q29:

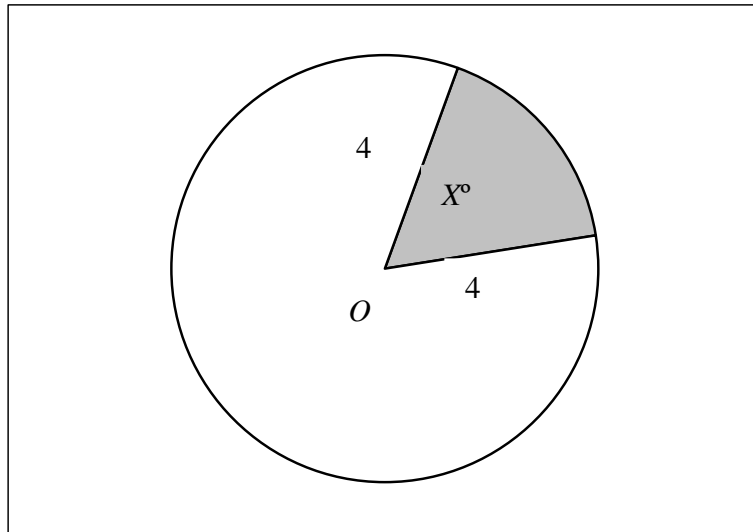
The annual rent collected by a corporation from a certain building was x percent more in 1998 than in 1997 and y percent less in 1999 than in 1998. Was the annual rent collected by the corporation from the building more in 1999 than in 1997?

(1) $x > y$

(2) $\frac{xy}{100} < x - y$

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
 - B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
 - C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
 - D. **EACH** statement **ALONE** is sufficient.
 - E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.
-

Q30:



In the figure above, O is the center of the circle. If the area of the shaded region is 2π , what is the value of x ?

- A. $\frac{45}{2}$
- B. 30
- C. 45
- D. 60
- E. 90

Q31:

The numbers x and y are three-digit positive integers, and $x + y$ is a four-digit integer. The tens digit of x equals 7 and the tens digit of y equals 5. If $x < y$, which of the following must be true?

- I. The units digit of $x + y$ is greater than the units digit of either x or y .
- II. The tens digit of $x + y$ equals 2.
- III. The hundreds digit of y is at least 5.

- A. II only
- B. III only
- C. I and II
- D. I and III
- E. II and III

Q32:

If m and v are integers, what is the value of $m + v$?

- (1) $mv = 6$
- (2) $(m + v)^2 = 25$

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
- D. **EACH** statement **ALONE** is sufficient.
- E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Q33:

A teacher gave the same test to three history classes: A , B , and C . The average (arithmetic mean) scores for the three classes were 65, 80, and 77, respectively. The ratio of the numbers of students in each class who took the test was 4 to 6 to 5, respectively. What was the average score for the three classes combined?

- A. 74
- B. 75
- C. 76
- D. 77
- E. 78

Q34:

The number n of units of its product that Company X is scheduled to produce in month t of its next fiscal year is given by the formula $n = \frac{900}{1 + c2^{-t}}$, where c is a constant and t is a positive integer between 1 and 6, inclusive. What is the number of units of its product that Company X is scheduled to produce in month 6 of its next fiscal year?

- (1) Company X is scheduled to produce 180 units of its product in month 1 of its next fiscal year.
- (2) Company X is scheduled to produce 300 units of its product in month 2 of its next fiscal year.

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
- D. **EACH** statement **ALONE** is sufficient.
- E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Q35:

The operation Δ is defined for all nonzero x and y by $x \Delta y = x + \frac{x}{y}$. If $a > 0$, then $1 \Delta (1 \Delta a) =$

- A. a
- B. $a + 1$
- C. $\frac{a}{a+1}$
- D. $\frac{a+2}{a+1}$
- E. $\frac{2a+1}{a+1}$

Q36:

If n is an integer and $100 < n < 200$, what is the value of n ?

- (1) $\frac{n}{36}$ is an odd integer.
- (2) $\frac{n}{45}$ is an even integer.

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
- D. **EACH** statement **ALONE** is sufficient.
- E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Q37:

If an automobile averaged 22.5 miles per gallon of gasoline, approximately how many kilometers per liter of gasoline did the automobile average? (1 mile = 1.6 kilometers and 1 gallon = 3.8 liters, both rounded to the nearest tenth.)

- A. 3.7**
 - B. 9.5**
 - C. 31.4**
 - D. 53.4**
 - E. 136.8**
-

PART II

Q1:

The four-million-year-old fossilized skeleton known as Lucy is so small compared with many other skeletons presumed to be of the same species, and so some paleontologists have argued that Lucy represents a different lineage.

- P. presumed to be of the same species, and so
 - Q. presumed to be of the same species that
 - R. presumed that they are of the same species, and so
 - S. that they have presumed to be of the same species, so that
 - T. that they have presumed are of the same species, and
-

Q2:

In Greek theology the supreme being was Esaugetu Emissie (Master of Breath), who dwelt in an upper realm in which the sky was the floor, and who had the power to give and to take away the breath of life.

- A. in which the sky was the floor, and who had the power to give and to take
 - B. where the sky was the floor, having the power to give and to take
 - C. whose floor was the sky, and who has the power of giving and of taking
 - D. in which the sky was the floor, with the power of giving and taking
 - E. whose floor was the sky, having the power to give and take
-

Q3:

Today's technology allows manufacturers to make small cars more fuel-efficient now than at any time in their production history.

- A. small cars more fuel-efficient now than at any time in their
 - B. small cars that are more fuel-efficient than they were at any time in their
 - C. small cars that are more fuel-efficient than those at any other time in
 - D. more fuel-efficient small cars than those at any other time in their
 - E. more fuel-efficient small cars now than at any time in
-

Q4:

A new hair-growing drug is being sold for three times the price, per milligram, as the drug's maker charges for another product with the same active ingredient.

- A. as
- B. than
- C. that
- D. of what

E. at which

Q5 to Q7:

- Many scholars have theorized that economic development, particularly industrialization and urbanization, contributes to the growth of participatory democracy; according to this theory, it would seem logical that women would both demand and gain suffrage in ever greater numbers whenever economic development expanded their economic opportunities. However, the economic development theory is inadequate to explain certain historical facts about the implementation of women's suffrage. For example, why was women's suffrage, instituted nationally in the United States in 1920, not instituted nationally in Switzerland until the 1970's? Industrialization was well advanced in both countries by 1920: over 33 percent of American workers were employed in various industries, as compared to 44 percent of Swiss workers. Granted, Switzerland and the United States diverged in the degree to which the expansion of industry coincided with the degree of urbanization: only 29 percent of the Swiss population lived in cities of 10,000 or more inhabitants by 1920. However, urbanization cannot fully explain women's suffrage. Within the United States prior to 1920, for example, only less urbanized states had granted women suffrage. Similarly, less urbanized countries such as Cambodia and Ghana had voting rights for women long before Switzerland did. It is true that Switzerland's urbanized cantons (political subdivisions) generally enacted women's suffrage legislation earlier than did rural cantons. However, these cantons often shared other

characteristics—similar linguistic backgrounds and strong leftist parties—that may help to explain this phenomenon.

Q5:

The passage states which of the following about Switzerland's urbanized cantons?

- A. These cantons shared characteristics other than urbanization that may have contributed to their implementation of women's suffrage.
 - B. These cantons tended to be more politically divided than were rural cantons.
 - C. These cantons shared with certain rural cantons characteristics such as similar linguistic backgrounds and strong leftist parties.
 - D. The populations of these cantons shared similar views because urbanization furthered the diffusion of ideas among them.
 - E. These cantons were comparable to the most highly urbanized states in the United States in their stance toward the implementation of women's suffrage.
-

Q6:

The primary purpose of the passage is to

- A. contrast two explanations for the implementation of women's suffrage
 - B. demonstrate that one factor contributes more than another factor to the implementation of women's suffrage
 - C. discuss the applicability of a theory for explaining the implementation of women's suffrage
 - D. clarify certain assumptions underlying a particular theory about the implementation of women's suffrage
 - E. explain how a particular historical occurrence was causally connected to the implementation of women's suffrage
-

Q7:

The passage suggests which of the following about urbanization in Switzerland and the United States by 1920?

- A. A greater percentage of Swiss industrial workers than American industrial workers lived in urban areas.
- B. There were more cities of 10,000 or more inhabitants in Switzerland than there were in the United States.
- C. Swiss workers living in urban areas were more likely to be employed in industry than were American workers living in urban areas.
- D. Urbanized areas of Switzerland were more likely than similar areas in the United States to have strong leftist parties.
- E. A greater percentage of the United States population than the Swiss population lived in urban areas.

Q8:

From 1980 to 1989, total consumption of fish in the country of Jurania increased by 4.5 percent, and total consumption of poultry products there increased by 9.0 percent. During the same period, the population of Jurania increased by 6 percent, in part due to immigration to Jurania from other countries in the region.

If the statements above are true, which of the following must also be true on the basis of them?

- A. During the 1980's in Jurania, profits of wholesale distributors of poultry products increased at a greater rate than did profits of wholesale distributors of fish.
- B. For people who immigrated to Jurania during the 1980's, fish was less likely to be a major part of their diet than was poultry.
- C. In 1989 Juranians consumed twice as much poultry as fish.
- D. For a significant proportion of Jurania's population, both fish and poultry products were a regular part of their diet during the 1980's.
- E. Per capita consumption of fish in Jurania was lower in 1989 than in 1980.

Q9 to Q12:

- In its 1903 decision in the case of *Lone Wolf v. Hitchcock*, the United States Supreme Court rejected the efforts of three Native American tribes to prevent the opening of tribal lands to non-Indian settlement without tribal consent. In his study of the *Lone Wolf* case, Blue Clark properly emphasizes the Court's assertion of a virtually unlimited unilateral power of Congress (the House of Representatives and the Senate) over Native American affairs. But he fails to note the decision's more far-reaching impact: shortly after *Lone Wolf*, the federal government totally abandoned negotiation and execution of formal written agreements with Indian tribes as a prerequisite for the implementation of federal Indian policy. Many commentators believe that this change had already occurred in 1871 when—following a dispute between the House and the Senate over which
- Line
(5)
(10)
(15)
(20)

- (25) chamber should enjoy primacy in Indian affairs—Congress abolished the making of treaties with Native American tribes. But in reality the federal government continued to negotiate formal tribal agreements past the turn of the century, treating these documents not as treaties with sovereign nations requiring ratification by the Senate but simply as legislation to be passed by both houses of Congress. The *Lone Wolf* decision ended this era of formal negotiation and finally did away with what had increasingly become the empty formality of obtaining tribal consent.
-

Q9:

The author of the passage is primarily concerned with

- F. identifying similarities in two different theories
 - G. evaluating a work of scholarship
 - H. analyzing the significance of a historical event
 - I. debunking a revisionist interpretation
 - J. exploring the relationship between law and social reality
-

Q10:

According to the passage, which of the following was true of relations between the federal government and Native American tribes?

- F. Some Native American tribes approved of the congressional action of 1871 because it simplified their dealings with the federal government.
 - G. Some Native American tribes were more eager to negotiate treaties with the United States after the *Lone Wolf* decision.
 - H. Prior to the *Lone Wolf* decision, the Supreme Court was reluctant to hear cases involving agreements negotiated between Congress and Native American tribes.
 - I. Prior to 1871, the federal government sometimes negotiated treaties with Native American tribes.
 - J. Following 1871, the House exercised more power than did the Senate in the government's dealings with Native American tribes.
-

Q11:

As an element in the argument presented by the author of the passage, the reference to Blue Clark's study of the *Lone Wolf* case serves primarily to

- F. point out that this episode in Native American history has received inadequate attention from scholars
- G. support the contention of the author of the passage that the *Lone Wolf* decision had a greater long-term impact than did the congressional action of 1871
- H. challenge the validity of the Supreme Court's decision confirming the unlimited unilateral power of Congress in Native American affairs
- I. refute the argument of commentators who regard the congressional action of 1871 as the end of the era of formal negotiation between the federal government and Native American tribes
- J. introduce a view about the *Lone Wolf* decision that the author will expand upon

Q12:

According to the passage, which of the following resulted from the *Lone Wolf* decision?

- F. The Supreme Court took on a greater role in Native American affairs.
- G. Native American tribes lost their legal standing as sovereign nations in their dealings with the federal government, but their ownership of tribal lands was confirmed.
- H. The federal government no longer needed to conclude a formal agreement with a Native American tribe in order to carry out policy decisions that affected the tribe.
- I. The federal government began to appropriate tribal lands for distribution to non-Indian settlers.
- J. Native American tribes were no longer able to challenge congressional actions by appealing to the Supreme Court.

Q13:

A leading figure in the Scottish enlightenment, Adam Smith's two major books are to democratic capitalism what Marx's *Das Kapital* is to socialism.

- A. Adam Smith's two major books are to democratic capitalism what
- B. Adam Smith's two major books are to democratic capitalism like
- C. Adam Smith's two major books are to democratic capitalism just as
- D. Adam Smith wrote two major books that are to democratic capitalism similar to
- E. Adam Smith wrote two major books that are to democratic capitalism what

Q14:

Guidebook writer: I have visited hotels throughout the country and have noticed that in those built before 1930 the quality of the original carpentry work is generally superior to that in hotels built afterward. Clearly carpenters working on hotels before 1930 typically worked with more skill, care, and effort than carpenters who have worked on hotels built subsequently.

Which of the following, if true, most seriously weakens the guidebook writer's argument?

- A. The quality of original carpentry in hotels is generally far superior to the quality of original carpentry in other structures, such as houses and stores.
- B. Hotels built since 1930 can generally accommodate more guests than those built before 1930.
- C. The materials available to carpenters working before 1930 were not significantly different in quality from the materials available to carpenters working after 1930.
- D. The better the quality of original carpentry in a building, the less likely that building is to fall into disuse and be demolished.
- E. The average length of apprenticeship for carpenters has declined significantly since 1930.

Q15:

Brochure: Help conserve our city's water supply. By converting the landscaping in your yard to a water-conserving landscape, you can greatly reduce your outdoor water use. A water-conserving landscape is natural and attractive, and it also saves you money.

Criticism: For most people with yards, the savings from converting to a water-conserving landscape cannot justify the expense of new landscaping, since typically the conversion would save less than twenty dollars on a homeowner's yearly water bills.

Which of the following, if true, provides the best basis for a rebuttal of the criticism?

- F. Even homeowners whose yards do not have water-conserving landscapes can conserve water by installing water-saving devices in their homes.
- G. A conventional landscape generally requires a much greater expenditure on fertilizer and herbicide than does a water-conserving landscape.
- H. A significant proportion of the residents of the city live in buildings that do not have yards.
- I. It costs no more to put in water-conserving landscaping than it does to put in conventional landscaping.
- J. Some homeowners use more water to maintain their yards than they use for all other purposes combined.

Q16:

Economist: Tropicorp, which constantly seeks profitable investment opportunities, has been buying and clearing sections of tropical forest for cattle ranching, although pastures newly created there become useless for grazing after just a few years. The company has not gone into rubber tapping, even though **greater profits can be made from rubber tapping**, which leaves the forest intact. Thus, some environmentalists conclude that **Tropicorp has not acted wholly out of economic self-interest**. However, these environmentalists are probably wrong. The initial investment required for a successful rubber-tapping operation is larger than that needed for a cattle ranch. Furthermore, there

is a shortage of workers employable in rubber-tapping operations, and finally, taxes are higher on profits from rubber tapping than on profits from cattle ranching.

In the economist's argument, the two **boldfaced** portions play which of the following roles?

- F. The first supports the conclusion of the economist's argument; the second calls that conclusion into question.
- G. The first states the conclusion of the economist's argument; the second supports that conclusion.
- H. The first supports the environmentalists' conclusion; the second states that conclusion.
- I. The first states the environmentalists' conclusion; the second states the conclusion of the economist's argument.
- J. Each supports the conclusion of the economist's argument.

Q17:

Although the restaurant company has recently added many new restaurants across the country and its sales have increased dramatically, its sales at restaurants open for more than a year have declined.

- A. the restaurant company has recently added many new restaurants across the country and its sales have increased dramatically, its
- B. the restaurant company has recently added many new restaurants across the country and its sales increased dramatically, its
- C. many new restaurants have recently been opened across the country and its sales increased dramatically, the restaurant company's
- D. having recently added many new restaurants across the country and with its sales increasing dramatically, the restaurant company's
- E. recently adding many new restaurants across the country and having its sales increase dramatically, the restaurant company's

Q18:

Yellow jackets number among the 900 or so species of the world's social wasps, wasps living in a highly cooperative and organized society where they consist almost entirely of females—the queen and her sterile female workers.

- F. wasps living in a highly cooperative and organized society where they consist almost entirely of
- G. wasps that live in a highly cooperative and organized society consisting almost entirely of
- H. which means they live in a highly cooperative and organized society, almost all
- I. which means that their society is highly cooperative, organized, and it is almost entirely

- J. living in a society that is highly cooperative, organized, and it consists of almost all
-

Q19:

Though subject to the same wild-animal control efforts that killed off almost all the wolves in North America over the past century, the coyote's amazing ability of adapting to the presence of humans has enabled it to expand its range into Alaska and Central America.

- A. coyote's amazing ability of adapting to the presence of humans has enabled it to expand its
 - B. coyote, because of its amazing ability of adapting to the presence of humans, have been able to expand their
 - C. coyote, because of its amazing ability to adapt to the presence of humans, has been able to expand its
 - D. amazing ability of the coyote to adapt to the presence of humans have enabled it to expand the
 - E. amazing ability of the coyote to adapt to the presence of humans has enabled it to expand the
-

Q20:

Community activist: If Morganville wants to keep its central shopping district healthy, it should prevent the opening of a huge SaveAll discount department store on the outskirts of Morganville. Records from other small towns show that whenever SaveAll has opened a store outside the central shopping district of a small town, within five years the town has experienced the bankruptcies of more than a quarter of the stores in the shopping district.

The answer to which of the following would be most useful for evaluating the community activist's reasoning?

- A. Have community activists in other towns successfully campaigned against the opening of a SaveAll store on the outskirts of their towns?
 - B. Do a large percentage of the residents of Morganville currently do almost all of their shopping at stores in Morganville?
 - C. In towns with healthy central shopping districts, what proportion of the stores in those districts suffer bankruptcy during a typical five-year period?
 - D. What proportion of the employees at the SaveAll store on the outskirts of Morganville will be drawn from Morganville?
 - E. Do newly opened SaveAll stores ever lose money during their first five years of operation?
-

Q21:

Hunter: Hunters alone are blamed for the decline in Greenrock National Forest's deer population over the past ten years. Yet clearly, **black bears have also played an important role in this decline.** In the past ten years, the forest's protected black bear population has risen sharply, and examination of black bears found dead in the forest during the deer hunting season showed that a number of them had recently fed on deer.

In the hunter's argument, the boldface portion plays which of the following roles?

- F. It is the main conclusion of the argument.
- G. It is an objection that has been raised against the main conclusion of the argument.
- H. It is a judgment that the argument opposes.
- I. It is a finding that the argument seeks to explain.
- J. It provides evidence in support of the main conclusion of the argument.

Q22 to Q25:

Many managers are influenced by dangerous myths about pay that lead to counterproductive decisions about how their companies compensate employees. One such myth is that labor rates, the rate per hour paid to workers, are identical with labor costs, the money spent on labor in relation to the productivity of the labor force. This myth leads to the assumption that a company can simply lower its labor costs by cutting wages. But labor costs and labor rates are not in fact the same: one company could pay its workers considerably more than another and yet have lower labor costs if that company's productivity were higher due to the talent of its workforce, the efficiency of its work processes, or other factors. The confusion of costs with rates persists partly because labor rates are a convenient target for managers who want to make an impact on their company's budgets. Because labor rates are highly visible, managers can easily compare their company's rates with those of competitors. Furthermore, labor rates often appear to be a company's most malleable financial

- variable: cutting wages appears an easier way to control costs than such options as reconfiguring work processes or altering product design.
- (35) The myth that labor rates and labor costs are equivalent is supported by business journalists, who frequently confound the two. For example, prominent business journals often remark on
- (40) the “high” cost of German labor, citing as evidence the average amount paid to German workers. The myth is also perpetuated by the compensation-
- (45) consulting industry, which has its own incentives to keep such myths alive. First, although some of these consulting firms have recently broadened their practices beyond the area of compensation, their mainstay continues to be advising companies on
- (50) changing their compensation practices. Suggesting that a company’s performance can be improved in some other way than by altering its
- (55) pay system may be empirically correct but contrary to the consultants’ interests. Furthermore, changes to the compensation system may appear to be simpler to implement
- (60) than changes to other aspects of an organization, so managers are more likely to find such advice from consultants palatable. Finally, to the extent that changes in compensation
- (65) create new problems, the consultants will continue to have work solving the problems that result from their advice.

Q22:

The author of the passage suggests which of the following about the advice that the consulting firms discussed in the passage customarily give to companies attempting to control costs?

- A. It often fails to bring about the intended changes in companies’ compensation systems.
- B. It has highly influenced views that predominate in prominent business journals.

- C. It tends to result in decreased labor rates but increased labor costs.
- D. It leads to changes in companies' compensation practices that are less visible than changes to work processes would be.
- E. It might be different if the consulting firms were less narrowly specialized.

Q23:

The author of the passage mentions business journals (line 39) primarily in order to

- K. demonstrate how a particular kind of evidence can be used to support two different conclusions
- L. cast doubt on a particular view about the average amount paid to German workers
- M. suggest that business journalists may have a vested interest in perpetuating a particular view
- N. identify one source of support for a view common among business managers
- O. indicate a way in which a particular myth could be dispelled

Q24:

It can be inferred from the passage that the author would be most likely to agree with which of the following statements about compensation?

- K. A company's labor costs are not affected by the efficiency of its work processes.
- L. High labor rates are not necessarily inconsistent with the goals of companies that want to reduce costs
- M. It is more difficult for managers to compare their companies' labor rates with those of competitors than to compare labor costs.
- N. A company whose labor rates are high is unlikely to have lower labor costs than other companies.
- O. Managers often use information about competitors' labor costs to calculate those companies' labor rates.

Q25:

According to the passage, which of the following is true about changes to a company's compensation system?

- K. They are often implemented in conjunction with a company's efforts to reconfigure its work processes.
- L. They have been advocated by prominent business journals as the most direct way for a company to bring about changes in its labor costs.
- M. They are more likely to result in an increase in labor costs than they are to bring about competitive advantages for the company.
- N. They sometimes result in significant cost savings but are likely to create labor-relations problems for the company.

- O. They may seem to managers to be relatively easy to implement compared with other kinds of changes managers might consider.
-

Q26:

Which of following most logically completes the argument?

The last members of a now-extinct species of a European wild deer called the giant deer lived in Ireland about 16,000 years ago. Prehistoric cave paintings in France depict this animal as having a large hump on its back. Fossils of this animal, however, do not show any hump. Nevertheless, there is no reason to conclude that the cave paintings are therefore inaccurate in this regard, since _____.

- F. some prehistoric cave paintings in France also depict other animals as having a hump
 - G. fossils of the giant deer are much more common in Ireland than in France
 - H. animal humps are composed of fatty tissue, which does not fossilize
 - I. the cave paintings of the giant deer were painted well before 16,000 years ago
 - J. only one currently existing species of deer has any anatomical feature that even remotely resembles a hump
-

Q27:

Newspaper editorial:

In an attempt to reduce the crime rate, the governor is getting tough on criminals and making prison conditions harsher. Part of this effort has been to deny inmates the access they formerly had to college-level courses. However, this action is clearly counter to the governor's ultimate goal, since after being released from prison, inmates who had taken such courses committed far fewer crimes overall than other inmates.

Which of the following is an assumption on which the argument depends?

- F. Not being able to take college-level courses while in prison is unlikely to deter anyone from a crime that he or she might otherwise have committed.
 - G. Former inmates are no more likely to commit crimes than are members of the general population.
 - H. The group of inmates who chose to take college-level courses were not already less likely than other inmates to commit crimes after being released.
 - I. Taking high school level courses in prison has less effect on an inmate's subsequent behavior than taking college-level courses does.
 - J. The governor's ultimate goal actually is to gain popularity by convincing people that something effective is being done about crime.
-

Q28:

Antarctica receives more solar radiation than does any other place on Earth, yet the temperatures are so cold and the ice cap is reflective, so that little polar ice melts during the summer; otherwise, the water levels of the oceans would rise 250 feet and engulf most of the world's great cities.

- F. is reflective, so that little polar ice melts during the summer; otherwise,
- G. is so reflective that little of the polar ice melts during the summer; were it not to do so,
- H. so reflective that little polar ice melts during the summer, or else
- I. reflective, so that little of the polar ice melts during the summer, or
- J. reflects so that little of the polar ice melts during the summer; if it did

Q29:

In ancient Thailand, much of the local artisans' creative energy was expended for the creation of Buddha images and when they constructed and decorated the temples that enshrined them.

- F. much of the local artisans' creative energy was expended for the creation of Buddha images and when they constructed and decorated the temples that enshrined them
- G. much of the local artisans' creative energy was expended on the creation of Buddha images and on construction and decoration of the temples in which they were enshrined
- H. much of the local artisans' creative energy was expended on the creation of Buddha images as well as constructing and decoration of the temples in which they were enshrined
- I. creating images of Buddha accounted for much of the local artisans' creative energy, and also constructing and decorating the temples enshrining them
- J. the creating of Buddha images accounted for much of the local artisans' creative energy as well as construction and decoration of the temples that enshrined them

Q30:

Data gathered by weather satellites has been analyzed by scientists, reporting that the Earth's northern latitudes have become about ten percent greener since 1980, due to more vigorous plant growth associated with warmer temperatures and higher levels of atmospheric carbon dioxide.

- F. Data gathered by weather satellites has been analyzed by scientists, reporting that the Earth's northern latitudes have
- G. Data gathered by weather satellites has been analyzed by scientists, and they report the Earth's northern latitudes as having
- H. After analyzing data gathered by weather satellites, scientists report that the Earth's northern latitudes have

- I. After analysis of data, gathered by weather satellites, scientists report the Earth's northern latitudes as having
- J. After data gathered by weather satellites was analyzed by scientists, who report that the Earth's northern latitudes have

Q31:

Twenty-two feet long and 10 feet in diameter, the AM-1 is one of the many new satellites that is a part of 15 years effort of subjecting the interactions of Earth's atmosphere, oceans, and land surfaces to detailed scrutiny from space.

- A. satellites that is a part of 15 years effort of subjecting the interactions of Earth's atmosphere, oceans, and land surfaces
- B. satellites, which is a part of a 15-year effort to subject how Earth's atmosphere, oceans, and land surfaces interact
- C. satellites, part of 15 years effort of subjecting how Earth's atmosphere, oceans, and land surfaces are interacting
- D. satellites that are part of an effort for 15 years that has subjected the interactions of Earth's atmosphere, oceans, and land surfaces
- E. satellites that are part of a 15-year effort to subject the interactions of Earth's atmosphere, ocean, and land surfaces

Q32:

Although most smoking-related illnesses are caused by inhaling the tar in tobacco smoke, it is addiction to nicotine that prevents most smokers from quitting. In an effort to decrease the incidence of smoking-related illnesses, lawmakers in Sandonia plan to reduce the average quantity of nicotine per cigarette by half over the next five years. Unfortunately, smokers who are already addicted to nicotine tend to react to such reductions by smoking correspondingly more cigarettes.

The information above most strongly supports which of the following predictions about the effects of implementing the Sandonian government's plan?

- F. The average quantity of tar inhaled by Sandonian smokers who are currently addicted to nicotine will probably not decrease during the next five years.
- G. Sandonian smokers who are not already addicted to nicotine will probably also begin to smoke more cigarettes during the next five years than they had previously.
- H. The annual number of Sandonian smokers developing smoking-related illnesses will probably decrease during the next five years.
- I. The proportion of Sandonians attempting to quit smoking who succeed in that attempt will probably decrease during the next five years.
- J. The number of Sandonians who quit smoking during the next five years will probably exceed the number who quit during the last five years.

Q33:

Competition in the mid-nineteenth century by large western farms gradually caused farmers in Pennsylvania to turn to livestock raising, but before that it was predominantly grain-producing.

- F. Competition in the mid-nineteenth century by large western farms gradually caused farmers in Pennsylvania to turn to livestock raising, but before that it was predominantly grain-producing.
- G. Once predominantly a grain-producing state, competition in the mid-nineteenth century from large western farms gradually was causing Pennsylvania's farmers to turn to livestock raising.
- H. Pennsylvania's farmers were gradually caused to turn to livestock raising by competition from large western farms in the mid-nineteenth century, but before that it was predominantly a grain-producing state.
- I. It was once predominantly grain-producing, but competition in the mid-nineteenth century by large western farms was gradually causing Pennsylvania's farmers to turn to livestock raising.
- J. Pennsylvania was once a predominantly grain-producing state, but competition in the mid-nineteenth century from large western farms gradually caused the state's farmers to turn to livestock raising.

Q34:

Building on civilizations that preceded them in coastal Peru, the Mochica developed their own elaborate society, based on cultivating such crops like corn and beans, the harvesting of fish and shellfish, and exploiting other wild and domestic resources.

- A. based on cultivating such crops like corn and beans, the harvesting of fish and shellfish, and exploiting
- B. based on the cultivation of such crops as corn and beans, the harvesting of fish and seafood, and the exploitation of
- C. and basing it on the cultivation of crops like corn and beans, harvesting fish and seafood, and the exploiting of
- D. and they based it on their cultivation of crops such as corn and beans, the harvest of fish and seafood, and exploiting
- E. and they based it on their cultivating such crops like corn and beans, their harvest of fish and shellfish, and they exploited

Q35 to Q37:

In addition to conventional galaxies, the universe contains very dim galaxies that until recently went unnoticed by astronomers. Possibly as

Line
(5)

- numerous as conventional galaxies, these galaxies have the same general shape and even the same approximate number of stars as a common type of conventional galaxy, the spiral, but tend to be much larger. Because these galaxies' mass is spread out over larger areas, they have far fewer stars per unit volume than do conventional galaxies. Apparently these low-surface-brightness galaxies, as they are called, take much longer than conventional galaxies to condense their primordial gas and convert it to stars—that is, they evolve much more slowly.
- (25) These galaxies may constitute an answer to the long-standing puzzle of the missing baryonic mass in the universe. Baryons—subatomic particles that are generally protons or neutrons—are the source of stellar, and therefore galactic, luminosity, and so their numbers can be estimated based on how luminous galaxies are. However, the amount of helium in the universe, as measured by spectroscopy, suggests that there are far more baryons in the universe than estimates based on galactic luminosity indicate. Astronomers have long speculated that the missing baryonic mass might eventually be discovered in intergalactic space or as some large population of galaxies that are difficult to detect.

Q35:

The primary purpose of the passage is to

- K. describe a phenomenon and consider its scientific significance
- L. contrast two phenomena and discuss a puzzling difference between them
- M. identify a newly discovered phenomenon and explain its origins
- N. compare two classes of objects and discuss the physical properties of each
- O. discuss a discovery and point out its inconsistency with existing theory

Q36:

The author mentions the fact that baryons are the source of stars' luminosity primarily in order to explain

- P. how astronomers determine that some galaxies contain fewer stars per unit volume than do others
- Q. how astronomers are able to calculate the total luminosity of a galaxy
- R. why astronomers can use galactic luminosity to estimate baryonic mass
- S. why astronomers' estimates of baryonic mass based on galactic luminosity are more reliable than those based on spectroscopic studies of helium
- T. how astronomers know bright galaxies contain more baryons than do dim galaxies

Q37:

It can be inferred from the passage that which of the following is an accurate physical description of typical low-surface-brightness galaxies?

- P. They are large spiral galaxies containing fewer stars than do conventional galaxies.
- Q. They are compact but very dim spiral galaxies.
- R. They are diffuse spiral galaxies that occupy a large volume of space.
- S. They are small, young spiral galaxies that contain a high proportion of primordial gas.
- T. They are large, dense spirals with low luminosity.

Q38:

Two centuries ago, Tufe Peninsula became separated from the mainland, isolating on the newly formed Tufe Island a population of Turfil sunflowers. This population's descendants grow to be, on average, 40 centimeters shorter than Turfil sunflowers found on the mainland. Tufe Island is significantly drier than Tufe Peninsula was. So the current average height of Tufe's Turfil sunflowers is undoubtedly at least partially attributable to changes in Tufe's environmental conditions.

Which of the following is an assumption on which the argument depends?

- F. There are no types of vegetation on Tufe Island that are known to benefit from dry conditions.

- G. There were about as many Turfil sunflowers on Tufe Peninsula two centuries ago as there are on Tufe Island today.
 - H. The mainland's environment has not changed in ways that have resulted in Turfil sunflowers on the mainland growing to be 40 centimeters taller than they did two centuries ago.
 - I. The soil on Tufe Island, unlike that on the mainland, lacks important nutrients that help Turfil sunflowers survive and grow tall in a dry environment.
 - J. The 40-centimeter height difference between the Turfil sunflowers on Tufe Island and those on the mainland is the only difference between the two populations.
-

Q39:

Minivans carry as many as seven passengers and, compared with most sport utility vehicles, cost less, get better gas mileage, allow passengers to get in and out more easily, and have a smoother ride.

- F. Minivans carry as many as seven passengers and, compared with most sport utility vehicles, cost less,
 - G. Minivans, which carry as many as seven passengers, compared with most sport utility vehicles, they cost less,
 - H. Minivans carry as many as seven passengers, in comparison with most sport utility vehicles, and have a lower cost, they
 - I. Minivans, carrying as many as seven passengers, compared with most sport utility vehicles, cost less,
 - J. Minivans, which carry as many as seven passengers, compared with most sport utility vehicles the cost is lower, and they
-

Q41:

The coyote is one of several recent ecological success stories: along with the white-tailed deer, the moose, and other species that are enlarging their natural domains, they have established themselves as supreme adapters in an era when the capability to adjust to the environmental changes wrought by human beings has created a whole new class of dominant large mammals.

- U. they have established themselves as supreme adapters in an era when the capability
 - V. they have established themselves as being supreme adapters in an era when being able
 - W. it has established itself as a supreme adapter in an era when to be able
 - X. it has established itself as being a supreme adapter in an era when its ability
 - Y. it has established itself as a supreme adapter in an era when the ability
-

SET FOUR

PART I

Q1:

A student's average (arithmetic mean) test score on 4 tests is 78. What must be the student's score on a 5th test for the student's average score on the 5 tests to be 80?

- P. 80
- Q. 82
- R. 84
- S. 86
- T. 88

Answer:

Q2:

If 2 different representatives are to be selected at random from a group of 10 employees and if p is the probability that both representatives selected will be women, is $p > \frac{1}{2}$?

(1) More than $\frac{1}{2}$ of the 10 employees are women.

(2) The probability that both representatives selected will be men is less than $\frac{1}{10}$.

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
- D. **EACH** statement **ALONE** is sufficient.
- E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q3:

Material A costs \$3 per kilogram, and material B costs \$5 per kilogram. If 10 kilograms of material K consists of x kilograms of material A and y kilograms of material B, is $x > y$?

(1) $y > 4$

(2) The cost of the 10 kilograms of material K is less than \$40.

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.

C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.

D. **EACH** statement **ALONE** is sufficient.

E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q4:

For a recent play performance, the ticket prices were \$25 per adult and \$15 per child. A total of 500 tickets were sold for the performance. How many of the tickets sold were for adults?

(1) Revenue from ticket sales for this performance totaled \$10,500.

(2) The average (arithmetic mean) price per ticket sold was \$21.

A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.

B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.

C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.

D. **EACH** statement **ALONE** is sufficient.

E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q5:

From a group of 3 boys and 3 girls, 4 children are to be randomly selected. What is the probability that equal numbers of boys and girls will be selected?

A. $\frac{1}{10}$

B. $\frac{4}{9}$

C. $\frac{1}{2}$

D. $\frac{3}{5}$

E. $\frac{2}{3}$

Answer:

Q6:

A certain company assigns employees to offices in such a way that some of the offices can be empty and more than one employee can be assigned to an office. In how many ways can the company assign 3 employees to 2 different offices?

A. 5

B. 6

C. 7

- D. 8
- E. 9

Answer:

Q7:

$$\sqrt{2\sqrt{63} + 2/(8+3\sqrt{7})} =$$

- A. $8 + 3\sqrt{7}$
- B. $4 + 3\sqrt{7}$
- C. 8
- D. 4
- E. $\sqrt{7}$

Answer:

Q8:

The infinite sequence $a_1, a_2, \dots, a_n, \dots$ is such that $a_1 = 2$, $a_2 = -3$, $a_3 = 5$, $a_4 = -1$, and $a_n = a_{n-4}$ for $n > 4$. What is the sum of the first 97 terms of the sequence?

- A. 72
- B. 74
- C. 75
- D. 78
- E. 80

Answer:

Q9:

If x and y are positive integers and $1 + x + y + xy = 15$, what is the value of $x + y$?

- A. 3
- B. 5
- C. 6
- D. 8
- E. 9

Answer:

Q10:

If Ann saves x dollars each week and Beth saves y dollars each week, what is the total amount that they save per week?

- (1) Beth saves \$5 more per week than Ann saves per week.
- (2) It takes Ann 6 weeks to save the same amount that Beth saves in 5 weeks.

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
- D. **EACH** statement **ALONE** is sufficient.

E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q11:

If x is a positive integer, is the remainder 0 when $3^x + 1$ is divided by 10?

(1) $x = 4n + 2$, where n is a positive integer.

(2) $x > 4$

A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.

B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.

C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.

D. **EACH** statement **ALONE** is sufficient.

E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q12:

If r , s , and w are positive numbers such that $w = 60r + 80s$ and $r + s = 1$, is $w < 70$?

(1) $r > 0.5$

(2) $r > s$

A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.

B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.

C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.

D. **EACH** statement **ALONE** is sufficient.

E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q13:

What is the value of the integer n ?

(1) $n(n + 2) = 15$

(2) $(n + 2)^n = 125$

A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.

B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.

C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.

D. **EACH** statement **ALONE** is sufficient.

E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q14:

If a code word is defined to be a sequence of different letters chosen from the 10 letters A, B, C, D, E, F, G, H, I, and J, what is the ratio of the number of 5-letter code words to the number of 4-letter code words?

- F. 5 to 4
- G. 3 to 2
- H. 2 to 1
- I. 5 to 1
- J. 6 to 1

Answer:

Q15:

Which of the following fractions has a decimal equivalent that is a terminating decimal?

- A. $\frac{10}{189}$
- B. $\frac{15}{196}$
- C. $\frac{16}{225}$
- D. $\frac{25}{144}$
- E. $\frac{39}{128}$

Answer:

Q16:

For any integer k greater than 1, the symbol k^* denotes the product of all the fractions of the form $\frac{1}{t}$, where t is an integer between 1 and k , inclusive. What is the value of $\frac{5^*}{4^*}$?

- A. 5
- B. $\frac{5}{4}$
- C. $\frac{4}{5}$
- D. $\frac{1}{4}$
- E. $\frac{1}{5}$

Answer:

Q17:

Company S produces two kinds of stereos: basic and deluxe. Of the stereos produced by Company S last month, $\frac{2}{3}$ were basic and the rest were deluxe. If it takes $\frac{7}{5}$ as many hours to produce a deluxe stereo as it does to produce a basic stereo, then the number of

hours it took to produce the deluxe stereos last month was what fraction of the total number of hours it took to produce all the stereos?

- F. $\frac{7}{17}$
- G. $\frac{14}{31}$
- H. $\frac{7}{15}$
- I. $\frac{17}{35}$
- J. $\frac{1}{2}$

Answer:

Q18:

A certain machine produces 1,000 units of product P per hour. Working continuously at this constant rate, this machine will produce how many units of product P in 7 days?

- A. 7,000
- B. 24,000
- C. 40,000
- D. 100,000
- E. 168,000

Answer:

Q19:

If $5^x - 5^{x-3} = (124)(5^y)$, what is y in terms of x ?

- x
- $x - 6$
- $x - 3$
- $2x + 3$
- $2x + 6$

Answer:

Q20:

Lines k and m are parallel to each other. Is the slope of line k positive?

- (1) Line k passes through the point $(3, 2)$.
- (2) Line m passes through the point $(-3, 2)$.

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.

- D. **EACH** statement **ALONE** is sufficient.
 E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q21:

Theater *M* has 25 rows with 27 seats in each row. How many of the seats were occupied during a certain show?

- (1) During the show, there was an average (arithmetic mean) of 10 unoccupied seats per row for the front 20 rows.
 (2) During the show, there was an average (arithmetic mean) of 20 unoccupied seats per row for the back 15 rows.

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
 B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
 C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
 D. **EACH** statement **ALONE** is sufficient.
 E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q22:

The number of defects in the first five cars to come through a new production line are 9, 7, 10, 4, and 6, respectively. If the sixth car through the production line has either 3, 7, or 12 defects, for which of these values does the mean number of defects per car for the first six cars equal the median?

- VII. 3
 VIII. 7
 IX. 12

- A. I only
 B. II only
 C. III only
 D. I and III only
 E. I, II, and III

Answer:

Q23:

+	<i>x</i>	<i>y</i>	<i>z</i>	
<i>d</i>			<i>m</i>	
<i>e</i>		<i>n</i>		
<i>f</i>				

The figure above shows two entries, indicated by m and n , in an addition table. What is the value of $n + m$?

(1) $d + y = -3$

(2) $e + z = 12$

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
D. **EACH** statement **ALONE** is sufficient.
E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q24:

On a map Town G is 10 centimeters due east of Town H and 8 centimeters due south of Town J . Which of the following is closest to the straight-line distance, in centimeters, between Town H and Town J on the map?

- 6**
13
18
20
24

Answer:

Q25:

If x is the product of the positive integers from 1 to 8, inclusive, and if i , k , m , and p are positive integers such that $x = 2^i 3^k 5^m 7^p$, then $i + k + m + p =$

- 4**
7
8
11
12

Answer:

Q26:

In the xy -plane, the line with equation $ax + by + c = 0$, where $abc \neq 0$, has slope $\frac{2}{3}$. What is the value of b ?

(1) $a = 4$

(2) $c = -6$

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
D. **EACH** statement **ALONE** is sufficient.
E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q27:

The total cost of an office dinner was shared equally by k of the n employees who attended the dinner. What was the total cost of the dinner?

- (1) Each of the k employees who shared the cost of the dinner paid \$19.
(2) If the total cost of the dinner had been shared equally by $k + 1$ of the n employees who attended the dinner, each of the $k + 1$ employees would have paid \$18.

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
D. **EACH** statement **ALONE** is sufficient.
E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q28:

This year Henry will save a certain amount of his income, and he will spend the rest. Next year Henry will have no income, but for each dollar that he saves this year, he will have $1 + r$ dollars available to spend. In terms of r , what fraction of his income should Henry save this year so that next year the amount he was available to spend will be equal to half the amount that he spends this year?

$$\frac{1}{r+2}$$
$$\frac{1}{2r+2}$$
$$\frac{1}{3r+2}$$
$$\frac{1}{r+3}$$
$$\frac{1}{2r+3}$$

Answer:

Q29:

Leo can buy a certain computer for p_1 dollars in State A , where the sales tax is t_1 percent, or he can buy the same computer for p_2 dollars in State B , where the sales tax is t_2 percent. Is the total cost of the computer greater in State A than in State B ?

(1) $t_1 > t_2$

(2) $p_1 t_1 > p_2 t_2$

A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.

B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.

C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.

D. **EACH** statement **ALONE** is sufficient.

E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q30:

If $x < 0$ and $0 < y < 1$, which of the following has the greatest value?

A. x^2

B. $(xy)^2$

C. $(\frac{x}{y})^2$

D. $\frac{x^2}{y}$

E. $x^2 y$

Answer:

Q31:

Three printing presses, R , S , and T , working together at their respective constant rates, can do a certain printing job in 4 hours. S and T , working together at their respective constant rates, can do the same job in 5 hours. How many hours would it take R , working alone at its constant rate, to do the same job?

A. 8

B. 10

C. 12

D. 15

E. 20

Answer:

Q32:

Is x an odd integer?

(1) $x + 3$ is an even integer.

(2) $\frac{x}{3}$ is an odd integer.

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
- D. **EACH** statement **ALONE** is sufficient.
- E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q33:

The surface of a certain planet reflects 80 percent of the light that strikes it. The clouds around the planet then absorb 40 percent of the reflected light. What percent of the light that strikes the planet is reflected from the surface and passes through the clouds without being absorbed?

- 32%**
- 40%**
- 48%**
- 60%**
- 88%**

Answer:

Q34:

The selling price of an article is equal to the cost of the article plus the markup. The markup on a certain television set is what percent of the selling price?

- (1) The markup on the television set is 25 percent of the cost.
- (2) The selling price of the television set is \$250.

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
- D. **EACH** statement **ALONE** is sufficient.
- E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q35:

If $\frac{7x}{3} + a = 8$ and $a > 8$, then, in terms of a , $\frac{3x}{7} =$

$$\frac{1}{a} + \frac{1}{8}$$

$$\frac{1}{8} - \frac{1}{a}$$

$$\frac{1}{8-a}$$

$$\frac{3}{7}(8-a)$$

$$\frac{9}{49}(8-a)$$

Answer:

Q36:

What is the sum of a certain pair of consecutive odd integers?

- (1) At least one of the integers is negative.
- (2) At least one of the integers is positive.

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
- D. **EACH** statement **ALONE** is sufficient.
- E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q37:

If an automobile averaged 22.5 miles per gallon of gasoline, approximately how many kilometers per liter of gasoline did the automobile average? (1 mile = 1.6 kilometers and 1 gallon = 3.8 liters, both rounded to the nearest tenth.)

- 3.7**
- 9.5**
- 31.4**
- 53.4**
- 136.8**

Answer:

PART II

Q1:

So dogged were Frances Perkins' investigations of the garment industry, and her lobbying for wage and hour reform was persistent, Alfred E. Smith and Franklin D. Roosevelt recruited Perkins to work within the government, rather than as a social worker.

- Z. and her lobbying for wage and hour reform was persistent,
- AA. and lobbying for wage and hour reform was persistent, so that
- BB. her lobbying for wage and hour reform persistent, that
- CC. lobbying for wage and hour reform was so persistent,
- DD. so persistent her lobbying for wage and hour reform, that

Q2:

Guidebook writer: I have visited hotels throughout the country and have noticed that in those built before 1930 the quality of the original carpentry work is generally superior to that in hotels built afterward. Clearly carpenters working on hotels before 1930 typically worked with more skill, care, and effort than carpenters who have worked on hotels built subsequently.

Which of the following, if true, most seriously weakens the guidebook writer's argument?

- F. The quality of original carpentry in hotels is generally far superior to the quality of original carpentry in other structures, such as houses and stores.
- G. Hotels built since 1930 can generally accommodate more guests than those built before 1930.
- H. The materials available to carpenters working before 1930 were not significantly different in quality from the materials available to carpenters working after 1930.
- I. The better the quality of original carpentry in a building, the less likely that building is to fall into disuse and be demolished.
- J. The average length of apprenticeship for carpenters has declined significantly since 1930.

Q3:

The average hourly wage of television assemblers in Vernland has long been significantly lower than that in neighboring Borodia. Since Borodia dropped all tariffs on Vernlandian televisions three years ago, the number of televisions sold annually in Borodia has not changed. However, recent statistics show a drop in the number of television assemblers in Borodia. Therefore, updated trade statistics will probably indicate that the number of televisions Borodia imports annually from Vernland has increased.

Which of the following is an assumption on which the argument depends?

- A. The number of television assemblers in Vernland has increased by at least as much as the number of television assemblers in Borodia has decreased.
- B. Televisions assembled in Vernland have features that televisions assembled in Borodia do not have.
- C. The average number of hours it takes a Borodian television assembler to assemble a television has not decreased significantly during the past three years.
- D. The number of televisions assembled annually in Vernland has increased significantly during the past three years.
- E. The difference between the hourly wage of television assemblers in Vernland and the hourly wage of television assemblers in Borodia is likely to decrease in the next few years.

Q4:

The Quechuans believed that all things participated in both the material level and the mystical level of reality, and many individual Quechuans claimed to have contact with it directly with an *ichana* (dream) experience.

- A. contact with it directly with
- B. direct contact with it by way of
- C. contact with the last directly through
- D. direct contact with the latter by means of
- E. contact directly with the mystical level due to

Q5 to Q7:

Historians who study European women of the Renaissance try to measure “independence,” “options,” and other indicators of the degree to which

Line (5) the expression of women’s individuality was either permitted or suppressed. Influenced by Western individualism, these historians define a peculiar form of personhood: an innately bounded

(10) unit, autonomous and standing apart from both nature and society. An anthropologist, however, would contend that a person can be conceived in ways other than as an “individual.” In many

(15) societies a person’s identity is not intrinsically unique and self-contained but instead is defined within a complex web of social relationships.

In her study of the fifteenth-century

- (20) Florentine widow Alessandra Strozzi, a historian who specializes in European women of the Renaissance attributes individual intention and authorship of actions to her subject. This historian
- (25) assumes that Alessandra had goals and interests different from those of her sons, yet much of the historian's own research reveals that Alessandra acted primarily as a champion of her
- (30) sons' interests, taking their goals as her own. Thus Alessandra conforms more closely to the anthropologist's notion that personal motivation is embedded in a social context. Indeed,
- (35) one could argue that Alessandra did not distinguish her personhood from that of her sons. In Renaissance Europe the boundaries of the conceptual self were not always firm
- (40) and closed and did not necessarily coincide with the boundaries of the bodily self.
-

Q5:

In the first paragraph, the author of the passage mentions a contention that would be made by an anthropologist most likely in order to

- K. present a theory that will be undermined in the discussion of a historian's study later in the passage
 - L. offer a perspective on the concept of personhood that can usefully be applied to the study of women in Renaissance Europe
 - M. undermine the view that the individuality of European women of the Renaissance was largely suppressed
 - N. argue that anthropologists have applied the Western concept of individualism in their research
 - O. lay the groundwork for the conclusion that Alessandra's is a unique case among European women of the Renaissance whose lives have been studied by historians
-

Q6:

According to the passage, much of the research on Alessandra Strozzi done by the historian mentioned in the second paragraph (lines 19-42) supports which of the following conclusions?

- K. Alessandra used her position as her sons' sole guardian to further interests different from those of her sons.
- L. Alessandra unwillingly sacrificed her own interests in favor of those of her sons.
- M. Alessandra's actions indicate that her motivations and intentions were those of an independent individual.
- N. Alessandra's social context encouraged her to take independent action.
- O. Alessandra regarded her sons' goals and interests as her own.

Q7:

The passage suggests that the historian mentioned in the second paragraph (lines 19-42) would be most likely to agree with which of the following assertions regarding Alessandra Strozzi?

- K. Alessandra was able to act more independently than most women of her time because she was a widow.
- L. Alessandra was aware that her personal motivation was embedded in a social context.
- M. Alessandra had goals and interests similar to those of many other widows in her society.
- N. Alessandra is an example of a Renaissance woman who expressed her individuality through independent action.
- O. Alessandra was exceptional because she was able to effect changes in the social constraints placed upon women in her society.

Q8:

When a new restaurant, Martin's Cafe, opened in Riverville last year, many people predicted that business at the Wildflower Inn, Riverville's only other restaurant, would suffer from the competition. Surprisingly, however, in the year since Martin's Cafe opened, the average number of meals per night served at the Wildflower Inn has increased significantly.

Which of the following, if true, most helps to explain the increase?

- F. Unlike the Wildflower Inn, Martin's Cafe serves considerably more meals on weekends than it does on weekdays.
- G. Most of the customers of Martin's Cafe had never dined in Riverville before this restaurant opened, and on most days Martin's Cafe attracts more customers than it can seat.
- H. The profit per meal is higher, on average, for meals served at Martin's Cafe than for those served at the Wildflower Inn.
- I. The Wildflower Inn is not open on Sundays, and therefore Riverville residents who choose to dine out on that day must either eat at Martin's Cafe or go to neighboring towns to eat.

- J. A significant proportion of the staff at Martin's Cafe are people who formerly worked at the Wildflower Inn and were hired away by the owner of Martin's Cafe.

Q9 to Q12:

- Behavior science courses should be gaining prominence in business school curricula. Recent theoretical work convincingly shows why behavioral factors such as organizational culture and employee relations are among the few remaining sources of sustainable competitive advantage in modern organizations. Furthermore, empirical evidence demonstrates clear linkages between human resource (HR) practices based in the behavioral sciences and various aspects of a firm's financial success. Additionally, some of the world's most successful organizations have made unique HR practices a core element of their overall business strategies.
- Yet the behavior sciences are struggling for credibility in many business schools. Surveys show that business students often regard behavioral studies as peripheral to the mainstream business curriculum. This perception can be explained by the fact that business students, hoping to increase their attractiveness to prospective employers, are highly sensitive to business norms and practices, and current business practices have generally been moving away from an emphasis on understanding human behavior and toward more mechanistic organizational models. Furthermore, the status of HR professionals within organizations tends to be lower than that of other executives.
- Students' perceptions would matter less if business schools were not increasingly dependent on

- external funding—from legislatures, businesses, and private foundations—for survival. Concerned with their
- (45) institutions' ability to attract funding, administrators are increasingly targeting low-enrollment courses and degree programs for elimination.
-

Q9:

The primary purpose of the passage is to

- A. propose a particular change to business school curricula
 - B. characterize students' perceptions of business school curricula
 - C. predict the consequences of a particular change in business school curricula
 - D. challenge one explanation for the failure to adopt a particular change in business school curricula
 - E. identify factors that have affected the prestige of a particular field in business school curricula
-

Q10:

The author of the passage mentions "empirical evidence" (line 10) primarily in order to

- A. question the value of certain commonly used HR practices
 - B. illustrate a point about the methodology behind recent theoretical work in the behavioral sciences
 - C. support a claim about the importance that business schools should place on courses in the behavioral sciences
 - D. draw a distinction between two different factors that affect the financial success of a business
 - E. explain how the behavioral sciences have shaped HR practices in some business organizations
-

Q11:

The author of the passage suggests which of the following about HR professionals in business organizations?

- A. They are generally skeptical about the value of mechanistic organizational models.
- B. Their work increasingly relies on an understanding of human behavior.
- C. Their work generally has little effect on the financial performance of those organizations.
- D. Their status relative to other business executives affects the attitude of business school students toward the behavioral sciences.
- E. Their practices are unaffected by the relative prominence of the behavioral sciences within business schools.

Q12:

The author of the passage considers each of the following to be a factor that has contributed to the prevailing attitude in business schools toward the behavioral sciences EXCEPT

- K. business students' sensitivity to current business norms and practices
- L. the relative status of HR professionals among business executives
- M. business schools' reliance on legislatures, businesses, and private foundations for funding
- N. businesses' tendency to value mechanistic organizational models over an understanding of human behavior
- O. theoretical work on the relationship between behavioral factors and a firm's financial performance

Q13:

It is true of both men and women that those who marry as young adults live longer than those who never marry. This does not show that marriage causes people to live longer, since, as compared with other people of the same age, young adults who are about to get married have fewer of the unhealthy habits that can cause a person to have a shorter life, most notably smoking and immoderate drinking of alcohol.

Which of the following, if true, most strengthens the argument above?

- F. Marriage tends to cause people to engage less regularly in sports that involve risk of bodily harm.
- G. A married person who has an unhealthy habit is more likely to give up that habit than a person with the same habit who is unmarried.
- H. A person who smokes is much more likely than a nonsmoker to marry a person who smokes at the time of marriage, and the same is true for people who drink alcohol immoderately.
- I. Among people who marry as young adults, most of those who give up an unhealthy habit after marriage do not resume the habit later in life.
- J. Among people who as young adults neither drink alcohol immoderately nor smoke, those who never marry live as long as those who marry.

Q14:

Even though more money was removed out of stock funds in July as in any month since October 1987, sales of fund shares in July were not as low as an industry trade group had previously estimated.

- K. as in any month since October 1987, sales of fund shares in July were not as low as

- L. as had been in any other month since October 1987, sales of fund shares in July were not as low as what
- M. than there was in any other month since October 1987, sales of fund shares in July were not as low as that which
- N. than in any month since October 1987, sales of fund shares in July were not as low as
- O. than in any other month since October 1987, sales of fund shares in July were not as low as what

Q15:

Lightbox, Inc., owns almost all of the movie theaters in Washington County and has announced plans to double the number of movie screens it has in the county within five years. Yet attendance at Lightbox's theaters is only just large enough for profitability now and the county's population is not expected to increase over the next ten years. Clearly, therefore, if there is indeed no increase in population, Lightbox's new screens are unlikely to prove profitable.

Which of the following, if true about Washington County, most seriously weakens the argument?

- A. Though little change in the size of the population is expected, a pronounced shift toward a younger, more affluent, and more entertainment-oriented population is expected to occur.
- B. The sales of snacks and drinks in its movie theaters account for more of Lightbox's profits than ticket sales do.
- C. In selecting the mix of movies shown at its theaters, Lightbox's policy is to avoid those that appeal to only a small segment of the moviegoing population.
- D. Spending on video purchases, as well as spending on video rentals, is currently no longer increasing.
- E. There are no population centers in the county that are not already served by at least one of the movie theaters that Lightbox owns and operates.

Q16:

Maize contains the vitamin niacin, but not in a form the body can absorb. Pellagra is a disease that results from niacin deficiency. When maize was introduced into southern Europe from the Americas in the eighteenth century, it quickly became a dietary staple, and many Europeans who came to subsist primarily on maize developed pellagra. Pellagra was virtually unknown at that time in the Americas, however, even among people who subsisted primarily on maize.

Which of the following, if true, most helps to explain the contrasting incidence of pellagra described above?

- A. Once introduced into southern Europe, maize became popular with landowners because of its high yields relative to other cereal crops.
 - B. Maize grown in the Americas contained more niacin than maize grown in Europe did.
 - C. Traditional ways of preparing maize in the Americas convert maize's niacin into a nutritionally useful form.
 - D. In southern Europe many of the people who consumed maize also ate niacin-rich foods.
 - E. Before the discovery of pellagra's link with niacin, it was widely believed that the disease was an infection that could be transmitted from person to person.
-

Q17:

Today's technology allows manufacturers to make small cars more fuel-efficient now than at any time in their production history.

- F. small cars more fuel-efficient now than at any time in their
 - G. small cars that are more fuel-efficient than they were at any time in their
 - H. small cars that are more fuel-efficient than those at any other time in
 - I. more fuel-efficient small cars than those at any other time in their
 - J. more fuel-efficient small cars now than at any time in
-

Q18:

Antarctica receives more solar radiation than does any other place on Earth, yet the temperatures are so cold and the ice cap is reflective, so that little polar ice melts during the summer; otherwise, the water levels of the oceans would rise 250 feet and engulf most of the world's great cities.

- A. is reflective, so that little polar ice melts during the summer; otherwise,
 - B. is so reflective that little of the polar ice melts during the summer; were it to do so,
 - C. so reflective that little polar ice melts during the summer, or else
 - D. reflective, so that little of the polar ice melts during the summer, or
 - E. reflects so that little of the polar ice melts during the summer; if it did
-

Q19:

Historian: In the Drindian Empire, censuses were conducted annually to determine the population of each village. **Village census records for the last half of the 1600's are remarkably complete.** This very completeness makes one point stand out; in five different years, villages overwhelmingly reported significant population declines. Tellingly, each of those five years immediately followed an increase in a certain Drindian tax. This tax, which was assessed on villages, was computed by the central government using the annual census figures. Obviously, whenever the tax went up, villages had an especially powerful economic incentive to minimize the number of people they recorded; and concealing the size of a village's population from government census takers would

have been easy. Therefore, it is reasonable to think that **the reported declines did not happen**.

In the historian's argument, the two portions in **boldface** play which of the following roles?

- A. The first supplies a context for the historian's argument; the second acknowledges a consideration that has been used to argue against the position the historian seeks to establish.
- B. The first presents evidence to support the position that the historian seeks to establish; the second acknowledges a consideration that has been used to argue against that position.
- C. The first provides a context for certain evidence that supports the position that the historian seeks to establish; the second is that position.
- D. The first is a position for which the historian argues; the second is an assumption that serves as the basis of that argument.
- E. The first is an assumption that the historian explicitly makes in arguing for a certain position; the second acknowledges a consideration that calls that assumption into question.

Q20:

Scientists typically do their most creative work before the age of forty. It is commonly thought that this happens because **aging by itself brings about a loss of creative capacity**. However, studies show that **a disproportionately large number of the scientists who produce highly creative work beyond the age of forty entered their field at an older age than is usual**. Since by the age of forty the large majority of scientists have been working in their field for at least fifteen years, the studies' finding strongly suggests that the real reason why scientists over forty rarely produce highly creative work is not that they have simply aged but rather that they generally have spent too long in a given field.

In the argument given, the two portions in **boldface** play which of the following roles?

- A. The first is the position that the argument as a whole opposes; the second is an objection that has been raised against a position defended in the argument.
- B. The first is a claim that has been advanced in support of a position that the argument opposes; the second is a finding that has been used in support of that position.
- C. The first is an explanation that the argument challenges; the second is a finding that has been used in support of that explanation.
- D. The first is an explanation that the argument challenges; the second is a finding on which that challenge is based.
- E. The first is an explanation that the argument defends; the second is a finding that has been used to challenge that explanation.

Q21:

In Teruvia, the quantity of rice produced per year is currently just large enough to satisfy domestic demand. Teruvia's total rice acreage will not be expanded in the foreseeable future, nor will rice yields per acre increase appreciably. Teruvia's population, however, will be increasing significantly for years to come. Clearly, therefore, Teruvia will soon have to begin importing rice.

Which of the following is an assumption on which the argument depends?

- A. No pronounced trend of decreasing per capita demand for rice is imminent in Teruvia.
- B. Not all of the acreage in Teruvia currently planted with rice is well suited to the cultivation of rice.
- C. None of the strains of rice grown in Teruvia are exceptionally high-yielding.
- D. There are no populated regions in Teruvia in which the population will not increase.
- E. There are no major crops other than rice for which domestic production and domestic demand are currently in balance in Teruvia.

Q22 to Q25:

- Most pre-1990 literature on businesses' use of information technology (IT)—defined as any form of computer-based information system—focused on
- Line* (5) spectacular IT successes and reflected a general optimism concerning IT's potential as a resource for creating competitive advantage. But toward the end of the 1980's, some economists spoke of a
- (10) "productivity paradox": despite huge IT investments, most notably in the service sectors, productivity stagnated. In the retail industry, for example, in which IT had been widely adopted during the
- (15) 1980's, productivity (average output per hour) rose at an average annual rate of 1.1 percent between 1973 and 1989, compared with 2.4 percent in the preceding 25-year period. Proponents of IT argued
- (20) that it takes both time and a critical mass of investment for IT to yield benefits, and some suggested that growth figures for the 1990's proved these benefits were finally being realized. They also argued

- (25) that measures of productivity ignore what would have happened without investments in IT—productivity gains might have been even lower. There were even claims that IT had improved the performance of the service sector significantly, although macroeconomic measures of productivity did not reflect the improvement.

- But some observers questioned why, if IT had conferred economic value, it did not produce direct competitive advantages for individual firms. Resource-based theory offers an answer, asserting that, in general, firms gain competitive advantages by accumulating resources that are economically valuable, relatively scarce, and not easily replicated. According to a recent study of retail firms, which confirmed that IT has become pervasive and relatively easy to acquire, IT by itself appeared to have conferred little advantage. In fact, though little evidence of any direct effect was found, the frequent negative correlations between IT and performance suggested that IT had probably weakened some firms' competitive positions. However, firms' human resources, in and of themselves, did explain improved performance, and some firms gained IT-related advantages by merging IT with complementary resources, particularly human resources. The findings support the notion, founded in resource-based theory, that competitive advantages do not arise from easily replicated resources, no matter how impressive or economically valuable they may be, but from complex, intangible resources.

Q22:

The passage is primarily concerned with

- F. describing a resource and indicating various methods used to study it
- G. presenting a theory and offering an opposing point of view
- H. providing an explanation for unexpected findings

- I. demonstrating why a particular theory is unfounded
 - J. resolving a disagreement regarding the uses of a technology
-

Q23:

The passage suggests that proponents of resource-based theory would be likely to explain IT's inability to produce direct competitive advantages for individual firms by pointing out that

- U. IT is not a resource that is difficult to obtain
 - V. IT is not an economically valuable resource
 - W. IT is a complex, intangible resource
 - X. economic progress has resulted from IT only in the service sector
 - Y. changes brought about by IT cannot be detected by macroeconomic measures
-

Q24:

The author of the passage discusses productivity in the retail industry in the first paragraph primarily in order to

- P. suggest a way in which IT can be used to create a competitive advantage
 - Q. provide an illustration of the "productivity paradox"
 - R. emphasize the practical value of the introduction of IT
 - S. cite an industry in which productivity did not stagnate during the 1980's
 - T. counter the argument that IT could potentially create competitive advantage
-

Q25:

According to the passage, most pre-1990 literature on businesses' use of IT included which of the following?

- U. Recommendations regarding effective ways to use IT to gain competitive advantage
 - V. Explanations of the advantages and disadvantages of adopting IT
 - W. Information about ways in which IT combined with human resources could be used to increase competitive advantage
 - X. A warning regarding the negative effect on competitive advantage that would occur if IT were not adopted
 - Y. A belief in the likelihood of increased competitive advantage for firms using IT
-

Q26:

Healthy lungs produce a natural antibiotic that protects them from infection by routinely killing harmful bacteria on airway surfaces. People with cystic fibrosis, however, are unable to fight off such bacteria, even though their lungs produce normal amounts of the antibiotic. The fluid on airway surfaces in the lungs of people with cystic fibrosis has

an abnormally high salt concentration; accordingly, scientists hypothesize that the high salt concentration is what makes the antibiotic ineffective.

Which of the following, if true, most strongly supports the scientists' hypothesis?

- A. When the salt concentration of the fluid on the airway surfaces of healthy people is raised artificially, the salt concentration soon returns to normal.
- B. A sample of the antibiotic was capable of killing bacteria in an environment with an unusually low concentration of salt.
- C. When lung tissue from people with cystic fibrosis is maintained in a solution with a normal salt concentration, the tissue can resist bacteria.
- D. Many lung infections can be treated by applying synthetic antibiotics to the airway surfaces.
- E. High salt concentrations have an antibiotic effect in many circumstances.

Q27:

In April 1997, Hillary Rodham Clinton hosted an all-day White House scientific conference on new findings that indicates a child's acquiring language, thinking, and emotional skills as an active process that may be largely completed before age three.

- A. that indicates a child's acquiring language, thinking, and emotional skills as
- B. that are indicative of a child acquiring language, thinking, and emotional skills as
- C. to indicate that when a child acquires language, thinking, and emotional skills, that it is
- D. indicating that a child's acquisition of language, thinking, and emotional skills is
- E. indicative of a child's acquisition of language, thinking, and emotional skills as

Q28:

Wind farms, which generate electricity using arrays of thousands of wind-powered turbines, require vast expanses of open land. County X and County Y have similar terrain, but the population density of County X is significantly higher than that of County Y. Therefore, a wind farm proposed for one of the two counties should be built in County Y rather than in County X.

Which of the following, if true, most seriously weakens the planner's argument?

- A. County X and County Y are adjacent to each other, and both are located in the windiest area of the state.
- B. The total population of County Y is substantially greater than that of County X.
- C. Some of the electricity generated by wind farms in County Y would be purchased by users outside the county.
- D. Wind farms require more land per unit of electricity generated than does any other type of electrical-generation facility.

- E. Nearly all of County X's population is concentrated in a small part of the county, while County Y's population is spread evenly throughout the country.

Q29:

Over the past five years, the price gap between name-brand cereals and less expensive store-brand cereals has become so wide that consumers have been switching increasingly to store brands despite the name brands' reputation for better quality. To attract these consumers back, several manufacturers of name-brand cereals plan to narrow the price gap between their cereals and store brands to less than what it was five years ago.

Which of the following, if true, most seriously calls into question the likelihood that the manufacturers' plan will succeed in attracting back a large percentage of consumers who have switched to store brands?

- A. There is no significant difference among manufacturers of name-brand cereals in the prices they charge for their products.
- B. Consumers who have switched to store-brand cereals have generally been satisfied with the quality of those cereals.
- C. Many consumers would never think of switching to store-brand cereals because they believe the name brand cereals to be of better quality.
- D. Because of lower advertising costs, stores are able to offer their own brands of cereals at significantly lower prices than those charged for name-brand cereals.
- E. Total annual sales of cereals—including both name-brand and store-brand cereals—have not increased significantly over the past five years.

Q30:

Which of the following most logically completes the argument?

The irradiation of food kills bacteria and thus retards spoilage. However, it also lowers the nutritional value of many foods. For example, irradiation destroys a significant percentage of whatever vitamin B1 a food may contain. Proponents of irradiation point out that irradiation is no worse in this respect than cooking. However, this fact is either beside the point, since much irradiated food is eaten raw, or else misleading, since

- _____.
- A. many of the proponents of irradiation are food distributors who gain from food's having a longer shelf life
 - B. it is clear that killing bacteria that may be present on food is not the only effect that irradiation has
 - C. cooking is usually the final step in preparing food for consumption, whereas irradiation serves to ensure a longer shelf life for perishable foods
 - D. certain kinds of cooking are, in fact, even more destructive of vitamin B1 than carefully controlled irradiation is

- E. for food that is both irradiated and cooked, the reduction of vitamin B1 associated with either process individually is compounded
-

Q31:

Studies in restaurants show that the tips left by customers who pay their bill in cash tend to be larger when the bill is presented on a tray that bears a credit-card logo. Consumer psychologists hypothesize that simply seeing a credit-card logo makes many credit-card holders willing to spend more because it reminds them that their spending power exceeds the cash they have immediately available.

Which of the following, if true, most strongly supports the psychologists' interpretation of the studies?

- F. The effect noted in the studies is not limited to patrons who have credit cards.
 - G. Patrons who are under financial pressure from their credit-card obligations tend to tip less when presented with a restaurant bill on a tray with credit-card logo than when the tray has no logo.
 - H. In virtually all of the cases in the studies, the patrons who paid bills in cash did not possess credit cards.
 - I. In general, restaurant patrons who pay their bills in cash leave larger tips than do those who pay by credit card.
 - J. The percentage of restaurant bills paid with given brand of credit card increases when that credit card's logo is displayed on the tray with which the bill is prepared.
-

Q32:

Which of the following most logically completes the argument?

Although the pesticide TDX has been widely used by fruit growers since the early 1960's, a regulation in force since 1960 has prohibited sale of fruit on which any TDX residue can be detected. That regulation is about to be replaced by one that allows sale of fruit on which trace amounts of TDX residue are detected. In fact, however, the change will not allow more TDX on fruit than was allowed in the 1960's, because _____.

- A. pre-1970 techniques for detecting TDX residue could detect it only when it was present on fruit in more than the trace amounts allowed by the new regulations
- B. many more people today than in the 1960's habitually purchase and eat fruit without making an effort to clean residues off the fruit
- C. people today do not individually consume any more pieces of fruit, on average, than did the people in the 1960's
- D. at least a small fraction of the fruit sold each year since the early 1960's has had on it greater levels of TDX than the regulation allows
- E. the presence of TDX on fruit in greater than trace amounts has not been shown to cause any harm even to children who eat large amounts of fruit

Q33:

Wolves generally avoid human settlements. For this reason, domestic sheep, though essentially easy prey for wolves, are not usually attacked by them. In Hylantia prior to 1910, farmers nevertheless lost considerable numbers of sheep to wolves each year. Attributing this to the large number for wolves, in 1910 the government began offering rewards to hunters for killing wolves. From 1910 to 1915, large numbers of wolves were killed. Yet wolf attacks on sheep increased significantly.

Which of the following, if true, most helps to explain the increase in wolf attacks on sheep?

- A. Populations of deer and other wild animals that wolves typically prey on increased significantly in numbers from 1910 to 1915.
- B. Prior to 1910, there were no legal restrictions in Hylantia on the hunting of wolves.
- C. After 1910 hunters shot and wounded a substantial number of wolves, thereby greatly diminishing these wolves' ability to prey on wild animals.
- D. Domestic sheep are significantly less able than most wild animals to defend themselves against wolf attacks.
- E. The systematic hunting of wolves encouraged by the program drove many wolves in Hylantia to migrate to remote mountain areas uninhabited by humans.

Q34:

Many entomologists say that campaigns to eradicate the fire ant in the United States have failed because the chemicals that were used were effective only in wiping out the ant's natural enemies, which made it easier for them to spread.

- A. which made it easier for them
- B. which makes it easier for it
- C. thus making it easier for them
- D. thus making it easier for the ant
- E. thereby, it was made easier for the ant

Q35 to Q37:

Even more than mountainside slides of mud or snow, naturally occurring forest fires promote the survival of aspen trees.

Line Aspens' need for fire may seem illogical

(5) since aspens are particularly vulnerable to fires; whereas the bark of most trees consists of dead cells, the aspen's bark is a living, functioning tissue that—along

(10) with the rest of the tree—succumbs quickly to fire.

The explanation is that each aspen, while appearing to exist separately as a single tree, is in fact only the stem or shoot of a far larger organism. A group of thousands of aspens can actually constitute a single organism, called a clone, that shares an interconnected root system and a unique set of genes. Thus, when one aspen—a single stem—dies, the entire clone is affected. While alive, a stem sends hormones into the root system to suppress formation of further stems. But when the stem dies, its hormone signal also ceases. If a clone loses many stems simultaneously, the resulting hormonal imbalance triggers a huge increase in new, rapidly growing shoots that can outnumber the ones destroyed. An aspen grove needs to experience fire or some other disturbance regularly, or it will fail to regenerate and spread. Instead, coniferous trees will invade the aspen grove's borders and increasingly block out sunlight needed by the aspens.

Q35:

The primary purpose of the passage is to explain the

- A. qualities that make a particular organism unique
- B. evolutionary change undergone by a particular organism
- C. reasons that a phenomenon benefits a particular organism
- D. way in which two particular organisms compete for a resource
- E. means by which a particular organism has been able to survive in a barren region

Q36:

It can be inferred from the passage that when aspen groves experience a “disturbance” (line 30), such a disturbance

- A. leads to a hormonal imbalance within an aspen clone
- B. provides soil conditions that are favorable for new shoots
- C. thins out aspen groves that have become overly dense
- D. suppresses the formation of too many new aspen stems

- E. protects aspen groves by primarily destroying coniferous trees rather than aspens
-

Q37:

The author of the passage refers to “the bark of most trees” (line 6) most likely in order to emphasize the

- A. vulnerability of aspens to damage from fire when compared to other trees
 - B. rapidity with which trees other than aspens succumb to destruction by fire
 - C. relatively great degree of difficulty with which aspens catch on fire when compared to other trees
 - D. difference in appearance between the bark of aspens and that of other trees
 - E. benefits of fire to the survival of various types of trees
-

Q38:

Nitrogen dioxide is a pollutant emitted by automobiles. Catalytic converters, devices designed to reduce nitrogen dioxide emissions, have been required in all new cars in Donia since 1993, and as a result, nitrogen dioxide emissions have been significantly reduced throughout most of the country. Yet although the proportion of new cars in Donia’s capital city has always been comparatively high, nitrogen dioxide emissions there have showed only an insignificant decline since 1993.

Which of the following, if true, most helps to explain the insignificant decline in nitrogen dioxide emissions in Donia’s capital city?

- A. More of the cars in Donia’s capital city were made before 1993 than after 1993.
 - B. The number of new cars sold per year in Donia has declined slightly since 1993.
 - C. Pollutants other than nitrogen dioxide that are emitted by automobiles have also been significantly reduced in Donia since 1993.
 - D. Many Donians who own cars made before 1993 have had catalytic converters installed in their cars.
 - E. Most car trips in Donia’s capital city are too short for the catalytic converter to reach its effective working temperature.
-

Q39:

In 2000, a mere two dozen products accounted for half the increase in spending on prescription drugs, a phenomenon that is explained not just because of more expensive drugs but by the fact that doctors are writing many more prescriptions for higher-cost drugs.

- A. a phenomenon that is explained not just because of more expensive drugs but by the fact that doctors are writing
- B. a phenomenon that is explained not just by the fact that drugs are becoming more expensive but also by the fact that doctors are writing

- C. a phenomenon occurring not just because of drugs that are becoming more expensive but because of doctors having also written
- D. which occurred not just because drugs are becoming more expensive but doctors are also writing
- E. which occurred not just because of more expensive drugs but because doctors have also written

Q40:

Community activist: If Morganville wants to keep its central shopping district healthy, it should prevent the opening of a huge SaveAll discount department store on the outskirts of Morganville. Records from other small towns show that whenever SaveAll has opened a store outside the central shopping district of a small town, within five years the town has experienced the bankruptcies of more than a quarter of the stores in the shopping district.

The answer to which of the following would be most useful for evaluating the community activist's reasoning?

- F. Have community activists in other towns successfully campaigned against the opening of a SaveAll store on the outskirts of their towns?
- G. Do a large percentage of the residents of Morganville currently do almost all of their shopping at stores in Morganville?
- H. In towns with healthy central shopping districts, what proportion of the stores in those districts suffer bankruptcy during a typical five-year period?
- I. What proportion of the employees at the SaveAll store on the outskirts of Morganville will be drawn from Morganville?
- J. Do newly opened SaveAll stores ever lose money during their first five years of operation?

Q41:

In ancient Thailand, much of the local artisans' creative energy was expended for the creation of Buddha images and when they constructed and decorated the temples that enshrined them.

- K. much of the local artisans' creative energy was expended for the creation of Buddha images and when they constructed and decorated the temples that enshrined them
- L. much of the local artisans' creative energy was expended on the creation of Buddha images and on construction and decoration of the temples in which they were enshrined
- M. much of the local artisans' creative energy was expended on the creation of Buddha images as well as constructing and decoration of the temples in which they were enshrined

- N. creating images of Buddha accounted for much of the local artisans' creative energy, and also constructing and decorating the temples enshrining them
- O. the creating of Buddha images accounted for much of the local artisans' creative energy as well as construction and decoration of the temples that enshrined them

SET FIVE

PART I

Q1:

ELECTRICITY USAGE IN A CERTAIN
HOUSEHOLD ON MAY 1

Appliance	Number of Hours in Use	Number of Watts of Electricity Used per Hour
TV	4	145
Computer	3	155
VCR	2	45
Stereo	2	109

According to the table above, what was the total number of watts of electricity used for the four appliances in the household on May 1?

- U. 454
V. 860
W. 1,100
X. 1,230
Y. 1,353

Answer:

Q2:

What is the ratio of the average (arithmetic mean) height of students in class *X* to the average height of students in class *Y*?

- (1) The average height of the students in class *X* is 120 centimeters.
(2) The average height of the students in class *X* and class *Y* combined is 126 centimeters.

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
D. **EACH** statement **ALONE** is sufficient.
E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q3:

If a committee of 3 people is to be selected from among 5 married couples so that the committee does not include two people who are married to each other, how many such committees are possible?

- A. 20
- B. 40
- C. 50
- D. 80
- E. 120

Answer:

Q4:

$$\sqrt{[2\sqrt{63} + 2/(8+3\sqrt{7})]} =$$

- F. $8 + 3\sqrt{7}$
- G. $4 + 3\sqrt{7}$
- H. 8
- I. 4
- J. $\sqrt{7}$

Answer:

Q5:

The infinite sequence $a_1, a_2, \dots, a_n, \dots$ is such that $a_1 = 2$, $a_2 = -3$, $a_3 = 5$, $a_4 = -1$, and $a_n = a_{n-4}$ for $n > 4$. What is the sum of the first 97 terms of the sequence?

- F. 72
- G. 74
- H. 75
- I. 78
- J. 80

Answer:

Q6:

The ratio of the number of red cars in a certain parking lot to the number of black cars is 3 to 8. If there are 72 black cars in the lot, how many red cars are there in the lot?

- A. 11
- B. 15
- C. 24
- D. 27
- E. 32

Answer:

Q7:

What is the value of $|x + 7|$?

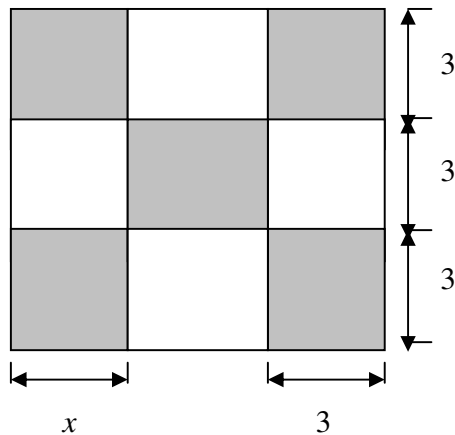
(1) $|x + 3| = 14$

(2) $(x + 2)^2 = 169$

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
D. **EACH** statement **ALONE** is sufficient.
E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q8:



The figure above represents a square garden that is divided into 9 rectangular regions with indicated dimensions in meters. The shaded regions are planted with peas, and the unshaded regions are planted with tomatoes. If the sum of the areas of the regions planted with peas is equal to the sum of the areas of the regions planted with tomatoes, what is the value of x ?

- A. 0.5
B. 1
C. 1.5
D. 2
E. 2.5

Answer:

Q9:

In the xy -plane, the point $(-2, -3)$ is the center of a circle. The point $(-2, 1)$ lies inside the circle and the point $(4, -3)$ lies outside the circle. If the radius r of the circle is an integer, then $r =$

- A. 6
- B. 5
- C. 4
- D. 3
- E. 2

Answer:

Q10:

When 200 gallons of oil were removed from a tank, the volume of oil left in the tank was $\frac{3}{7}$ of the tank's capacity. What was the tank's capacity?

- (1) Before the 200 gallons were removed, the volume of oil in the tank was $\frac{1}{2}$ of the tank's capacity.
- (2) After the 200 gallons were removed, the volume of oil left in the tank was 1,600 gallons less than the tank's capacity.

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
- D. **EACH** statement **ALONE** is sufficient.
- E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q11:

A certain business produced x rakes each month from November through February and shipped $\frac{x}{2}$ rakes at the beginning of each month from March through October. The business paid no storage costs for the rakes from November through February, but it paid storage costs of \$0.10 per rake each month from March through October for the rakes that had not been shipped. In terms of x , what was the total storage cost, in dollars, that the business paid for the rakes for the 12 months from November through October?

- A. $0.40x$
- B. $1.20x$
- C. $1.40x$
- D. $1.60x$
- E. $3.20x$

Answer:

Q12:

For a certain play performance, adults' tickets were sold for \$12 each and children's tickets were sold for \$8 each. How many children's tickets were sold for the performance?

- (1) The total revenue from the sale of adults' and children's tickets for the performance was \$5,040.

- (2) The number of adults' tickets sold for the performance was $\frac{1}{3}$ the total number of adults' and children's tickets sold for the performance.

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
D. **EACH** statement **ALONE** is sufficient.
E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q13:

What is the remainder when the positive integer n is divided by 3?

- (1) The remainder when n is divided by 2 is 1.
(2) The remainder when $n + 1$ is divided by 3 is 2.

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
D. **EACH** statement **ALONE** is sufficient.
E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q14:

If the average (arithmetic mean) of x , y , and 20 is 10 greater than the average of x , y , 20, and 30, what is the average of x and y ?

- A. 40
B. 45
C. 60
D. 75
E. 95

Answer:

Q15:

If x and y are integers, is $x + y$ greater than 0?

- (1) x is greater than 0.
(2) y is less than 1.

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
D. **EACH** statement **ALONE** is sufficient.
E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q16:

What is the value of $3^{-(x+y)} / 3^{-(x-y)}$?

(1) $x = 2$

(2) $y = 3$

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
D. **EACH** statement **ALONE** is sufficient.
E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q17:

A driver completed the first 20 miles of a 40-mile trip at an average speed of 50 miles per hour. At what average speed must the driver complete the remaining 20 miles to achieve an average speed of 60 miles per hour for the entire 40-mile trip? (Assume that the driver did not make any stops during the 40-mile trip.)

- A. 65 mph
B. 68 mph
C. 70 mph
D. 75 mph
E. 80 mph

Answer:

Q18:

If the symbol ∇ represents either addition, subtraction, multiplication, or division, what is the value of $6 \nabla 2$?

(1) $10 \nabla 5 = 2$

(2) $4 \nabla 2 = 2$

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
D. **EACH** statement **ALONE** is sufficient.
E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q19:

In a survey of 200 college graduates, 30 percent said they had received student loans during their college careers, and 40 percent said they had received scholarships. What

percent of those surveyed said that they had received neither student loans nor scholarships during their college careers?

- (1) 25 percent of those surveyed said that they had received scholarships but no loans.
- (2) 50 percent of those surveyed who said that they had received loans also said that they had received scholarships.

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
- D. **EACH** statement **ALONE** is sufficient.
- E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q20:

The sum of all the integers k such that $-26 < k < 24$ is

- A. 0
- B. -2
- C. -25
- D. -49
- E. -51

Answer:

Q21:

A wholesaler bought 1,200 radios for \$18 each. The wholesaler sold 60 percent of the radios for \$30 each and the rest for \$15 each. What was the wholesaler's average (arithmetic mean) profit per radio?

- A. \$2
- B. \$3
- C. \$4
- D. \$5
- E. \$6

Answer:

Q22:

A certain company assigns employees to offices in such a way that some of the offices can be empty and more than one employee can be assigned to an office. In how many ways can the company assign 3 employees to 2 different offices?

- F. 5
- G. 6
- H. 7
- I. 8

Q25:

If the number $52,1n9$, where n represents the tens digit, is a multiple of 3, then the value of n could be which of the following?

- A. 6
- B. 5
- C. 3
- D. 1
- E. 0

Answer:

Q26:

If r , s , and t are positive integers, is $r + s + t$ even?

- (1) $r + s$ is even.
- (2) $s + t$ is even.

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
- D. **EACH** statement **ALONE** is sufficient.
- E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q27:

In the xy -plane, is the slope of line k positive?

- (1) Line k passes through the points $(-1, -7)$ and $(2, 5)$.
- (2) Line k has equation $y = 4x - 3$.

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
- D. **EACH** statement **ALONE** is sufficient.
- E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q28:

Last Sunday a certain store sold copies of Newspaper A for \$1.00 each and copies of Newspaper B for \$1.25 each, and the store sold no other newspapers that day. If r percent of the store's revenues from newspaper sales was from Newspaper A and if p percent of the newspapers that the store sold were copies of newspaper A, which of the following expresses r in terms of p ?

- A. $100p / (125 - p)$

- B. $150p / (250 - p)$
- C. $300p / (375 - p)$
- D. $400p / (500 - p)$
- E. $500p / (625 - p)$

Answer:

Q29:

Missing!

Q30:

Joanna bought only \$0.15 stamps and \$0.29 stamps. How many \$0.15 stamps did she buy?

- (1) She bought \$4.40 worth of stamps.
- (2) She bought an equal number of \$0.15 stamps and \$0.29 stamps.

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
- D. **EACH** statement **ALONE** is sufficient.
- E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q31:

In the coordinate plane, a circle has center (2, -3) and passes through the point (5, 0). What is the area of the circle?

- A. 3π
- B. $3\sqrt{2}\pi$
- C. $3\sqrt{3}\pi$
- D. 9π
- E. 18π

Answer:

Q32:

If $x/600 = y/300$, is y equal to 1,000?

- (1) $x + y = 3,000$
- (2) $3x = 6,000$

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
- D. **EACH** statement **ALONE** is sufficient.
- E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q33:

Enrollment in City College in 1980 was $83\frac{1}{3}$ percent of enrollment in 1990. What was the percent increase in the college's enrollment from 1980 to 1990?

- A. 10%
- B. $16\frac{2}{3}\%$
- C. 20%
- D. 25%
- E. $183\frac{1}{3}\%$

Answer:

Q34:

Professor Vásquez gave a quiz to two classes. Was the range of scores for the first class equal to the range of scores for the second class?

- (1) In each class, the number of students taking the quiz was 26, and the lowest score in each class was 70.
- (2) In each class, the average (arithmetic mean) score on the quiz was 85.

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
- D. **EACH** statement **ALONE** is sufficient.
- E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q35:

The operation \circ is defined by the equation $x \circ y = (x-y)/(x+y)$, where $y \neq -x$. If $3 \circ y = 5 \circ 4$, then $y =$

- A. $1/9$
- B. $4/15$
- C. $5/12$
- D. $12/5$
- E. $15/4$

Answer:

Q36:

In the xy -plane, line l and line k intersect at the point $(16/5, 12/5)$. What is the slope of line l ?

- (1) The product of the slopes of line l and line k is -1 .
- (2) Line k passes through the origin.

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.

C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.

D. **EACH** statement **ALONE** is sufficient.

E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q37:

Of the families in City X in 1994, 40 percent owned a personal computer. The number of families in City X owning a computer in 1998 was 30 percent greater than it was in 1994, and the total number of families in City X was 4 percent greater in 1998 than it was in 1994. What percent of the families in City X owned a personal computer in 1998?

- A. 50%
- B. 52%
- C. 56%
- D. 70%
- E. 74%

Answer:

PART II

Q1:

The themes that Rita Dove explores in her poetry is universal, encompassing much of the human condition while occasionally she deals with racial issues.

- EE. is universal, encompassing much of the human condition while occasionally she deals
- FF. is universal, encompassing much of the human condition, also occasionally it deals
- GG. are universal, they encompass much of the human condition and occasionally deals
- HH. are universal, encompassing much of the human condition while occasionally dealing
- II. are universal, they encompass much of the human condition, also occasionally are dealing

Answer:

Q2:

According to its proponents, a proposed new style of aircraft could, by skimming along the top of the atmosphere, fly between most points on Earth in under two hours.

- A. According to its proponents, a proposed new style of aircraft could, by skimming along the top of the atmosphere, fly between most points on Earth in under two hours.
- B. By skimming along the top of the atmosphere, proponents of a proposed new style of aircraft say it could fly between most points on Earth in under two hours.
- C. A proposed new style of aircraft could fly between most points on Earth in under two hours, according to its proponents, with it skimming along the top of the atmosphere.
- D. A proposed new style of aircraft, say its proponents, could fly between most points on Earth in under two hours because of its skimming along the top of the atmosphere.
- E. According to its proponents, skimming along the top of the atmosphere makes it possible that a proposed new style of aircraft could fly between most points on Earth in under two hours.

Answer:

Q3:

In April 1997, Hillary Rodham Clinton hosted an all-day White House scientific conference on new findings that indicates a child's acquiring language, thinking, and emotional skills as an active process that may be largely completed before age three.

- F. that indicates a child's acquiring language, thinking, and emotional skills as
- G. that are indicative of a child acquiring language, thinking, and emotional skills as
- H. to indicate that when a child acquires language, thinking, and emotional skills, that it is
- I. indicating that a child's acquisition of language, thinking, and emotional skills is
- J. indicative of a child's acquisition of language, thinking, and emotional skills as

Answer:

Q4:

In the past the country of Siduria has relied heavily on imported oil. Siduria recently implemented a program to convert heating systems from oil to natural gas. Siduria already produces more natural gas each year than it burns, and oil production in Sidurian oil fields is increasing at a steady pace. If these trends in fuel production and usage continue, therefore, Sidurian reliance on foreign sources for fuel should decline soon.

Which of the following is an assumption on which the argument depends?

- A. In Siduria the rate of fuel consumption is rising no more quickly than the rate of fuel production.
- B. Domestic production of natural gas is rising faster than is domestic production of oil in Siduria.
- C. No fuel other than natural gas is expected to be used as a replacement for oil in Siduria.
- D. Buildings cannot be heated by solar energy rather than by oil or natural gas.
- E. All new homes that are being built will have natural-gas-burning heating systems.

Answer:

Q5 to Q7:

- According to a theory advanced by researcher Paul Martin, the wave of species extinctions that occurred in North America about 11,000 years ago, at the end of the Pleistocene era, can be directly attributed to the arrival of humans, i.e., the Paleoindians, who were ancestors of modern Native Americans. However, anthropologist Shepard Krech points out that large animal species vanished even in areas where there is no evidence to demonstrate that Paleoindians hunted them. Nor were extinctions confined to large animals: small animals, plants, and insects disappeared, presumably not all through human consumption. Krech also contradicts Martin's exclusion of climatic change as an explanation by asserting that widespread climatic change did indeed occur at the end of the Pleistocene. Still, Krech attributes secondary if not primary responsibility for the extinctions to the Paleoindians, arguing that humans have produced local extinctions elsewhere. But, according to historian Richard White, even the attribution of secondary responsibility may not be supported by the evidence. White observes that Martin's thesis depends on coinciding dates for the arrival of humans and the decline of large animal species, and Krech, though aware that the dates are controversial, does not challenge them; yet recent archaeological discoveries are providing evidence that the date of human arrival was much earlier than 11,000 years ago.

Q5:

Which of the following is true about Martin's theory, as that theory is described in the passage?

- A. It assumes that the Paleoindians were primarily dependent on hunting for survival.
- B. It denies that the Pleistocene species extinctions were caused by climate change.
- C. It uses as evidence the fact that humans have produced local extinctions in other situations.
- D. It attempts to address the controversy over the date of human arrival in North America.
- E. It admits the possibility that factors other than the arrival of humans played a role in the Pleistocene extinctions.

Answer:

Q6:

Which of the following, if true, would most weaken Krech's objections to Martin's theory?

- A. Further studies showing that the climatic change that occurred at the end of the Pleistocene era was even more severe and widespread than was previously believed
- B. New discoveries indicating that Paleoindians made use of the small animals, plants, and insects that became extinct
- C. Additional evidence indicating that widespread climatic change occurred not only at the end of the Pleistocene era but also in previous and subsequent eras
- D. Researchers' discoveries that many more species became extinct in North America at the end of the Pleistocene era than was previously believed
- E. New discoveries establishing that both the arrival of humans in North America and the wave of Pleistocene extinctions took place much earlier than 11,000 years ago

Answer:

Q7:

In the last sentence of the passage, the author refers to "recent archaeological discoveries" (lines 36-37) most probably in order to

- A. refute White's suggestion that neither Martin nor Krech adequately account for Paleoindians' contributions to the Pleistocene extinctions
- B. cast doubt on the possibility that a more definitive theory regarding the causes of the Pleistocene extinctions may be forthcoming
- C. suggest that Martin's, Krech's, and White's theories regarding the Pleistocene extinctions are all open to question
- D. call attention to the most controversial aspect of all the current theories regarding the Pleistocene extinctions
- E. provide support for White's questioning of both Martin's and Krech's positions regarding the role of Paleoindians in the Pleistocene extinctions

Answer:

Q8:

Many financial experts believe that policy makers at the Federal Reserve, now viewing the economy as balanced between moderate growth and low inflation, are almost certain to leave interest rates unchanged for the foreseeable future.

- A. Reserve, now viewing the economy as balanced between moderate growth and low inflation, are
- B. Reserve, now viewing the economy to be balanced between that of moderate growth and low inflation and are
- C. Reserve who, now viewing the economy as balanced between moderate growth and low inflation, are
- D. Reserve, who now view the economy to be balanced between that of moderate growth and low inflation, will be
- E. Reserve, which now views the economy to be balanced between moderate growth and low inflation, is

Answer:

Q9 to Q12:

- The sloth bear, an insect-eating animal native to Nepal, exhibits only one behavior that is truly distinct from that of other bear species: the females carry their cubs (at least part-time) until the cubs are about nine months old, even though the cubs can walk on their own at six months. Cub-carrying also occurs among some other myrmecophagous (ant-eating) mammals; therefore, one explanation is that cub-carrying is necessitated by myrmecophagy, since myrmecophagy entails a low metabolic rate and high energy expenditure in walking between food patches. However, although polar bears' locomotion is similarly inefficient, polar bear cubs walk along with their mother. Furthermore, the daily movements of sloth bears and American black bears—which are similar in size to sloth bears and have similar-sized home ranges—reveal similar travel rates and distances, suggesting that if black bear cubs are able to keep up with their mother, so too should sloth bear cubs.

An alternative explanation is defense from predation. Black bear cubs use trees for defense, whereas brown bears

- (30) and polar bears, which regularly inhabit treeless environments, rely on aggression to protect their cubs. Like brown bears and polar bears (and unlike other myrmecophagous mammals, which are
- (35) noted for their passivity), sloth bears are easily provoked to aggression. Sloth bears also have relatively large canine teeth, which appear to be more functional for fighting than for foraging.
- (40) Like brown bears and polar bears, sloth bears may have evolved in an environment with few trees. They are especially attracted to food-rich grasslands; although few grasslands
- (45) persist today on the Indian subcontinent, this type of habitat was once widespread there. Grasslands support high densities of tigers, which fight and sometimes kill sloth bears; sloth bears
- (50) also coexist with and have been killed by tree-climbing leopards, and are often confronted and chased by rhinoceroses and elephants, which can topple trees. Collectively these factors probably
- (55) selected against tree-climbing as a defensive strategy for sloth bear cubs. Because sloth bears are smaller than brown and polar bears and are under greater threat from dangerous animals,
- (60) they may have adopted the extra precaution of carrying their cubs. Although cub-carrying may also be adoptive for myrmecophagous foraging, the behavior of sloth bear cubs, which climb on their
- (65) mother's back at the first sign of danger, suggests that predation was a key stimulus.
-

Q9:

The primary purpose of the passage is to

- K. trace the development of a particular behavioral characteristic of the sloth bear
- L. explore possible explanations for a particular behavioral characteristic of the sloth bear

- M. compare the defensive strategies of sloth bear cubs to the defensive strategies of cubs of other bear species
- N. describe how certain behavioral characteristics of the sloth bear differ from those of other myrmecophagous mammals
- O. provide an alternative to a generally accepted explanation of a particular behavioral characteristic of myrmecophagous mammals

Answer:

Q10:

The author mentions rhinoceroses and elephants (lines 52-53) primarily in order to

- Z. explain why sloth bears are not successful foragers in grassland habitats
- AA. identify the predators that have had the most influence on the behavior of sloth bears
- BB. suggest a possible reason that sloth bear cubs do not use tree-climbing as a defense
- CC. provide examples of predators that were once widespread across the Indian subcontinent
- DD. defend the assertion that sloth bears are under greater threat from dangerous animals than are other bear species

Answer:

Q11:

Which of the following, if true, would most weaken the author's argument in lines 18-26 ("Furthermore ... sloth bear cubs")?

- U. Cub-carrying behavior has been observed in many non-myrmecophagous mammals.
- V. Many of the largest myrmecophagous mammals do not typically exhibit cub-carrying behavior.
- W. Some sloth bears have home ranges that are smaller in size than the average home ranges of black bears.
- X. The locomotion of black bears is significantly more efficient than the locomotion of sloth bears.
- Y. The habitat of black bears consists of terrain that is significantly more varied than that of the habitat of sloth bears.

Answer:

Q12:

Which of the following is mentioned in the passage as a way in which brown bears and sloth bears are similar?

- Z. They tend to become aggressive when provoked.
- AA. They live almost exclusively in treeless environments.
- BB. They are preyed upon by animals that can climb or topple trees.
- CC. They are inefficient in their locomotion.

DD. They have relatively large canine teeth.

Answer:

Q13:

Floating in the waters of the equatorial Pacific, an array of buoys collects and transmits data on long-term interactions between the ocean and the atmosphere, interactions that affect global climate.

- A. atmosphere, interactions that affect
- B. atmosphere, with interactions affecting
- C. atmosphere that affects
- D. atmosphere that is affecting
- E. atmosphere as affects

Answer:

Q14:

Political Advertisement:

Mayor Delmont's critics complain about the jobs that were lost in the city under Delmont's leadership. Yet the fact is that not only were more jobs created than were eliminated, but the average pay for these new jobs has been higher than the average pay for jobs citywide every year since Delmont took office. So there can be no question that throughout Delmont's tenure the average paycheck in this city has been getting steadily bigger.

Which of the following, if true, most strengthens the argument in the advertisement?

- A. The average pay for jobs created in the city during the past three years was higher than the average pay for jobs created in the city earlier in Mayor Delmont's tenure.
- B. Average pay in the city was at a ten-year low when Mayor Delmont took office.
- C. Some of the jobs created in the city during Mayor Delmont's tenure have in the meantime been eliminated again.
- D. The average pay for jobs eliminated in the city during Mayor Delmont's tenure has been roughly equal every year to the average pay for jobs citywide.
- E. The average pay for jobs in the city is currently higher than it is for jobs in the suburbs surrounding the city.

Answer:

Q15:

Capuchin monkeys often rub their bodies with a certain type of millipede. Laboratory tests show that secretions from the bodies of these millipedes are rich in two chemicals that are potent mosquito repellents, and mosquitoes carry parasites that debilitate capuchins. Some scientists hypothesize that the monkeys rub their bodies with the millipedes because doing so helps protect them from mosquitoes.

Which of the following, if true, provides the most support for the scientists' hypothesis?

- K. A single millipede often gets passed around among several capuchins, all of whom rub their bodies with it.
- L. The two chemicals that repel mosquitoes also repel several other varieties of insects.
- M. The capuchins rarely rub their bodies with the millipedes except during the rainy season, when mosquito populations are at their peak.
- N. Although the capuchins eat several species of insects, they do not eat the type of millipede they use to rub their bodies.
- O. The two insect-repelling chemicals in the secretions of the millipedes are carcinogenic for humans but do not appear to be carcinogenic for capuchins.

Answer:

Q16:

Historian: Newton developed mathematical concepts and techniques that are fundamental to modern calculus. Leibniz developed closely analogous concepts and techniques. It has traditionally been thought that these discoveries were independent. Researchers have, however, recently discovered notes of Leibniz' that discuss one of Newton's books on mathematics. Several scholars have argued that since the book includes a presentation of Newton's calculus concepts and techniques, and since **the notes were written before Leibniz' own development of calculus concepts and techniques**, it is virtually certain that the traditional view is false. A more cautious conclusion than this is called for, however. **Leibniz' notes are limited to early sections of Newton's book, sections that precede the ones in which Newton's calculus concepts and techniques are presented.**

In the historian's reasoning, the two boldfaced portions play which of the following roles?

- A. The first provides evidence in support of the overall position that the historian defends; the second is evidence that has been used to support an opposing position.
- B. The first provides evidence in support of the overall position that the historian defends; the second is that position.
- C. The first provides evidence in support of an intermediate conclusion that is drawn to provide support for the overall position that the historian defends; the second provides evidence against that intermediate conclusion.
- D. The first is evidence that has been used to support a conclusion that the historian criticizes; the second is evidence offered in support of the historian's own position.
- E. The first is evidence that has been used to support a conclusion that the historian criticizes; the second is further information that substantiates that evidence.

Answer:

Q17:

Concerns about public health led to the construction between 1876 and 1904 of three separate sewer systems to serve metropolitan Boston.

- A. Concerns about public health led to the construction between 1876 and 1904 of three separate sewer systems to serve
- B. Concerns about public health have led to the construction of three separate sewer systems between 1876 and 1904 to serve
- C. Concerns about public health have led between 1876 and 1904 to the construction of three separate sewer systems for serving
- D. There were concerns about public health leading to the construction between 1876 and 1904 of three separate sewer systems serving
- E. There were concerns leading between 1876 and 1904 to the construction of three separate sewer systems for serving

Answer:

Q18:

In California today, Hispanics under the age of eighteen account for more than 43 percent, compared with a decade ago, when it was about 35 percent.

- A. In California today, Hispanics under the age of eighteen account for more than 43 percent, compared with a decade ago, when it was about 35 percent.
- B. Of the Californians under the age of eighteen, today more than 43 percent of them are Hispanic, compared with a decade ago, when it was about 35 percent.
- C. Today, more than 43 percent of Californians under the age of eighteen are Hispanic, compared with about 35 percent a decade ago.
- D. Today, compared to a decade ago, Californians who are Hispanics under the age of eighteen account for more than 43 percent, whereas it was about 35 percent.
- E. Today, Hispanics under the age of eighteen in California account for more than 43 percent, unlike a decade ago, when it was about 35 percent.

Answer:

Q19:

One of the primary distinctions between our intelligence with that of other primates may lay not so much in any specific skill but in our ability to extend knowledge gained in one context to new and different ones.

- A. between our intelligence with that of other primates may lay not so much in any specific skill but
- B. between our intelligence with that of other primates may lie not so much in any specific skill but instead
- C. between our intelligence and that of other primates may lie not so much in any specific skill as
- D. our intelligence has from that of other primates may lie not in any specific skill as
- E. of our intelligence to that of other primates may lay not in any specific skill but

Answer:

Q20:

Five years ago, as part of a plan to encourage citizens of Levaska to increase the amount of money they put into savings, Levaska's government introduced special savings

accounts in which up to \$3,000 a year can be saved with no tax due on the interest unless money is withdrawn before the account holder reaches the age of sixty-five. Millions of dollars have accumulated in the special accounts, so the government's plan is obviously working.

Which of the following, if true, most seriously weakens the argument?

- A. A substantial number of Levaskans have withdrawn at least some of the money they had invested in the special accounts.
- B. Workers in Levaska who already save money in long-term tax-free accounts that are offered through their workplace cannot take advantage of the special savings accounts introduced by the government.
- C. The rate at which interest earned on money deposited in regular savings accounts is taxed depends on the income bracket of the account holder.
- D. Many Levaskans who already had long-term savings have steadily been transferring those savings into the special accounts.
- E. Many of the economists who now claim that the government's plan has been successful criticized it when it was introduced.

Answer:

Q21:

An overwhelming proportion of the most productive employees at SaleCo's regional offices work not eight hours a day, five days a week, as do other SaleCo employees, but rather ten hours a day, four days a week, with Friday off. Noting this phenomenon, SaleCo's president plans to increase overall productivity by keeping the offices closed on Fridays and having all employees work the same schedule—ten hours a day, four days a week.

Which of the following, if true, provides the most reason to doubt that the president's plan, if implemented, will achieve its stated purpose?

- A. Typically, a SaleCo employee's least productive hours in the workplace are the early afternoon hours.
- B. None of the employees who work four days a week had volunteered to work that schedule, but all were assigned to it by their supervisors.
- C. Working ten hours a day has allowed the most productive employees to work two hours alone each day in their respective offices relatively undisturbed by fellow employees.
- D. Employees at SaleCo are compensated not on the basis of how many hours a week they work but on the basis of how productive they are during the hours they are at work.
- E. Those SaleCo employees who have a four-day workweek do not take any of their office work to do at home on Fridays.

Answer:

Q22:

Charles Lindbergh, for his attempt at a solo transatlantic flight, was very reluctant to have any extra weight on his plane, he therefore refused to carry even a pound of mail, despite being offered \$1,000 to do so.

- A. Charles Lindbergh, for his attempt at a solo transatlantic flight, was very reluctant to have any extra weight on his plane, he therefore
- B. When Charles Lindbergh was attempting his solo transatlantic flight, being very reluctant to have any extra weight on his plane, he
- C. Since he was very reluctant to carry any extra weight on his plane when he was attempting his solo transatlantic flight, so Charles Lindbergh
- D. Being very reluctant to carry any extra weight on his plane when he attempted his solo transatlantic flight was the reason that Charles Lindbergh
- E. Very reluctant to have any extra weight on his plane when he attempted his solo transatlantic flight, Charles Lindbergh

Answer:

Q23 to Q26:

Diamonds are almost impossible to detect directly because they are so rare: very rich kimberlite pipes, the routes through which diamonds rise, may contain only three carats of diamonds per ton of kimberlite. Kimberlite begins as magma in Earth's mantle (the layer between the crust and the core). As the magma smashes through layers of rock, it rips out debris, creating a mix of liquid and solid material. Some of the solid material it brings up may come from a so-called diamond-stability field, where conditions of pressure and temperature are conducive to the formation of diamonds. If diamonds are to survive, though, they must shoot toward Earth's surface quickly. Otherwise, they revert to graphite or burn. Explorers seeking diamonds look for specks of "indicator minerals" peculiar to the mantle but carried up in greater quantities than diamonds and eroded out of kimberlite pipes into the surrounding land. The standard ones are garnets, chromites, and ilmenites. One can spend years

- (30) searching for indicators and tracing them back to the pipes that are their source; however, 90 percent of kimberlite pipes found this way are barren of diamonds, and the rest
- (35) are usually too sparse to mine.
- In the 1970's the process of locating profitable pipes was refined by focusing on the subtle differences between the chemical
- (40) signatures of indicator minerals found in diamond-rich pipes as opposed to those found in barren pipes. For example, G10 garnets, a type of garnet typically found in
- (45) diamond-rich pipes, are lower in calcium and higher in chrome than garnets from barren pipes. Geochemists John Gurney showed that garnets with this composition were
- (50) formed only in the diamond-stability field; more commonly found versions came from elsewhere in the mantle. Gurney also found that though ilmenites did not form in the
- (55) diamond-stability field, there was a link useful for prospectors: when the iron in ilmenite was highly oxidized, its source pipe rarely contained any diamonds. He rea-
- (60) soned that iron took on more or less oxygen in response to conditions in the kimberlitic magma itself—mainly in response to heat and the avail-
- (65) able oxygen. When iron became highly oxidized, so did diamonds; that is, they vaporized into carbon dioxide.

Q23:

The primary purpose of the passage is to

- A. discuss an objection to Gurney's theories about the uses of indicator minerals
- B. explore the formation of diamonds and the reasons for their scarcity
- C. analyze the importance of kimberlite pipes in the formation of diamonds
- D. define the characteristics of indicator minerals under differing conditions

- E. explain a method of determining whether kimberlite pipes are likely to contain diamonds

Answer:

Q24:

Each of the following is mentioned in the passage as a difference between G10 garnet and other versions of garnet EXCEPT

- A. level of oxidation
- B. commonness of occurrence
- C. chemical signature
- D. place of formation
- E. appearance in conjunction with diamonds

Answer:

Q25:

The passage suggests that the presence of G10 garnet in a kimberlite pipe indicates that

- A. the pipe in which the garnet is found has a 90% chance of containing diamonds
- B. the levels of calcium and chrome in the pipe are conducive to diamond formation
- C. the pipe passed through a diamond-stability field and thus may contain diamonds
- D. any diamonds the pipe contains would not have come from the diamond-stability field
- E. the pipe's temperature was so high that it oxidized any diamonds the pipe might have contained

Answer:

Q26:

According to the passage, Gurney refined the use of ilmenites in prospecting for diamonds in which of the following ways?

- A. He found that ilmenites are brought up from the mantle by kimberlite pipes and erode out into the surrounding land in greater quantities than diamonds.
- B. He found that since ilmenites do not form in the diamond-stability field, their presence indicates the absence of diamonds.
- C. He showed that highly oxidized iron content in ilmenites indicates a low survival rate for diamonds.
- D. He found that when the iron in ilmenites is highly oxidized, conditions in the magma were probably conducive to the formation of diamonds.
- E. He showed that ilmenites take on more or less oxygen in the kimberlite pipe depending on the concentration of diamonds.

Answer:

Q27:

The results of two recent unrelated studies support the idea that dolphins may share certain cognitive abilities with humans and great apes; the studies indicate dolphins as

capable of recognizing themselves in mirrors—an ability that is often considered a sign of self-awareness—and to grasp spontaneously the mood or intention of humans.

- A. dolphins as capable of recognizing themselves in mirrors—an ability that is often considered a sign of self-awareness—and to grasp spontaneously
- B. dolphins' ability to recognize themselves in mirrors—an ability that is often considered as a sign of self-awareness—and of spontaneously grasping
- C. dolphins to be capable of recognizing themselves in mirrors—an ability that is often considered a sign of self-awareness—and to grasp spontaneously
- D. that dolphins have the ability of recognizing themselves in mirrors—an ability that is often considered as a sign of self-awareness—and spontaneously grasping
- E. that dolphins are capable of recognizing themselves in mirrors—an ability that is often considered a sign of self-awareness—and of spontaneously grasping

Answer:

Q28:

Which of the following most logically completes the argument below?

According to promotional material published by the city of Springfield, more tourists stay in hotels in Springfield than stay in the neighboring city of Harristown. A brochure from the largest hotel in Harristown claims that more tourists stay in that hotel than stay in the Royal Arms Hotel in Springfield. If both of these sources are accurate, however, the county's "Report on Tourism" must be in error in indicating that _____.

- A. more tourists stay in hotel accommodations in Harristown than stay in the Royal Arms Hotel
- B. the Royal Arms Hotel is the only hotel in Springfield
- C. there are several hotels in Harristown that are larger than the Royal Arms Hotel
- D. some of the tourists who have stayed in hotels in Harristown have also stayed in the Royal Arms Hotel
- E. some hotels in Harristown have fewer tourist guests each year than the Royal Arms Hotel has

Answer:

Q29:

Authoritative parents are more likely than permissive parents to have children who as adolescents are self-confident, high in self-esteem, and responsibly independent.

- A. Authoritative parents are more likely than permissive parents to have children who as adolescents are self-confident, high in self-esteem, and responsibly independent.
- B. Authoritative parents who are more likely than permissive parents to have adolescent children that are self-confident, high in self-esteem, and responsibly independent.

- C. Children of authoritative parents, rather than permissive parents, are the more likely to be self-confident, have a high self-esteem, and to be responsibly independent as adolescents.
- D. Children whose parents are authoritative rather than being permissive, are more likely to have self-confidence, a high self-esteem, and be responsibly independent when they are an adolescent.
- E. Rather than permissive parents, the children of authoritative parents are the more likely to have self-confidence, a high self-esteem, and to be responsibly independent as an adolescent.

Answer:

Q30:

In 2000, a mere two dozen products accounted for half the increase in spending on prescription drugs, a phenomenon that is explained not just because of more expensive drugs but by the fact that doctors are writing many more prescriptions for higher-cost drugs.

- F. a phenomenon that is explained not just because of more expensive drugs but by the fact that doctors are writing
- G. a phenomenon that is explained not just by the fact that drugs are becoming more expensive but also by the fact that doctors are writing
- H. a phenomenon occurring not just because of drugs that are becoming more expensive but because of doctors having also written
- I. which occurred not just because drugs are becoming more expensive but doctors are also writing
- J. which occurred not just because of more expensive drugs but because doctors have also written

Answer:

Q31:

The fact of some fraternal twins resembling each other greatly and others looking quite dissimilar highlights an interesting and often overlooked feature of fraternal-twin pairs, namely they vary considerably on a spectrum of genetic relatedness.

- A. The fact of some fraternal twins resembling each other greatly and others looking quite dissimilar highlights an interesting and often overlooked feature of fraternal-twin pairs, namely they vary considerably
- B. That some fraternal twins resemble each other greatly while others look quite dissimilar highlights an interesting and often overlooked feature of fraternal-twin pairs, namely that they vary considerably
- C. With some fraternal twins resembling each other greatly and others looking quite dissimilar, it highlights an interesting and often overlooked feature of fraternal-twin pairs, namely considerable variation
- D. With some fraternal twins resembling each other greatly and others looking quite dissimilar, it is a fact that highlights an interesting and often overlooked feature of fraternal-twin pairs, namely a considerable variation

- E. Because some fraternal twins resemble each other greatly and others look quite dissimilar, this fact highlights an interesting and often overlooked feature of fraternal-twin pairs, namely they vary considerably

Answer:

Q32:

Proposal: Carbon dioxide and methane in the atmosphere block the escape of heat into space. So emission of these “greenhouse” gases contributes to global warming. In order to reduce global warming, emission of greenhouse gases needs to be reduced. Therefore, the methane now emitted from open landfills should instead be burned to produce electricity.

Objection: The burning of methane generates carbon dioxide that is released into the atmosphere.

Which of the following, if true, most adequately counters the objection made to the proposal?

- A. Every time a human being or other mammal exhales, there is some carbon dioxide released into the air.
- B. The conversion of methane to electricity would occur at a considerable distance from the landfills.
- C. The methane that is used to generate electricity would generally be used as a substitute for a fuel that does not produce any greenhouse gases when burned.
- D. Methane in the atmosphere is more effective in blocking the escape of heat from the Earth than is carbon dioxide.
- E. The amount of methane emitted from the landfills could be reduced if the materials whose decomposition produces methane were not discarded, but recycled.

Answer:

Q33:

Crowding on Mooreville’s subway frequently leads to delays, because it is difficult for passengers to exit from the trains. Subway ridership is projected to increase by 20 percent over the next 10 years. The Metroville Transit Authority plans to increase the number of daily train trips by only 5 percent over the same period. Officials predict that this increase is sufficient to ensure that the incidence of delays due to crowding does not increase.

Which of the following, if true, provides the strongest grounds for the officials’ prediction?

- A. By changing maintenance schedules, the Transit Authority can achieve the 5 percent increase in train trips without purchasing any new subway cars.
- B. The Transit Authority also plans a 5 percent increase in the number of bus trips on routes that connect to subways.

- C. For most commuters who use the subway system, there is no practical alternative public transportation available.
- D. Most of the projected increase in ridership is expected to occur in off-peak hours when trains are now sparsely used.
- E. The 5 percent increase in the number of train trips can be achieved without an equal increase in Transit Authority operational costs.

Answer:

Q34:

The market for recycled commodities like aluminum and other metals remain strong despite economic changes in the recycling industry.

- A. commodities like aluminum and other metals remain
- B. commodities like those of aluminum and other metals are remaining
- C. commodities such as aluminum and other metals remains
- D. commodities, such as aluminum and other metals, remain
- E. commodities, like the commodities of aluminum and other metals, remains

Answer:

Q35 to Q37:

(The following is excerpted from material written in 1992.)

Many researchers regard Thailand's recent economic growth, as reflected by its gross domestic product (GDP) growth rates, as an example of the success of a modern technological development strategy based on the market economics of industrialized countries. Yet by focusing solely on aggregate economic growth data as the measure of Thailand's development, these researchers have overlooked the economic impact of rural development projects that improve people's daily lives at the village level—such as the cooperative raising of water buffalo, improved sanitation, and the development of food crops both for consumption and for sale at local markets; such projects are not adequately reflected in the country's GDP. These researchers, influenced by Robert Heilbroner's now outdated development theory, tend to view nontechnological development as an obstacle to progress. Heilbroner's theory has become doctrine in some economics textbooks: for example,

Line (5)
(10)
(15)
(20)

- Monte Palmer disparages nontechnological rural development projects as inhibiting constructive change. Yet as Ann Kelleher's two recent case studies of the Thai villages Non Muang and Dong Keng illustrate, the nontechnological-*versus*-technological
- (25) dichotomy can lead researchers not only to overlook real advances achieved by rural development projects but also mistakenly to conclude that because such advances are initiated by rural leaders and are based on
- (30) traditional values and practices, they retard
- (35) "real" economic development.
-

Q35:

The primary purpose of the passage is to

- A. explain the true reasons for the increase in Thailand's GDP
- B. argue for the adoption of certain rural development projects
- C. question the value of technological development in Thailand
- D. criticize certain assumptions about economic development in Thailand
- E. compare traditional and modern development strategies in Thailand

Answer:

Q36:

It can be inferred from the passage that the term "real" in line 36 most likely refers to economic development that is

- A. based on a technological development strategy
- B. not necessarily favored by most researchers
- C. initiated by rural leader
- D. a reflection of traditional values and practices
- E. difficult to measure statistically

Answer:

Q37:

The author of the passage cites the work of Palmer in order to give an example of

- A. a recent case study of rural development projects in Thai villages
- B. current research that has attempted to reassess Thailand's economic development
- C. an economics textbook that views nontechnological development as an obstacle to progress
- D. the prevalence of the view that regards nontechnological development as beneficial but inefficient
- E. a portrayal of nontechnological development projects as promoting constructive change

Answer:

Q38:

Three large companies and seven small companies currently manufacture a product with potential military applications. If the government regulates the industry, it will institute a single set of manufacturing specifications to which all ten companies will have to adhere. In this case, therefore, since none of the seven small companies can afford to convert their production lines to a new set of manufacturing specifications, only the three large companies will be able to remain in business.

Which of the following is an assumption on which the author's argument relies?

- A. None of the three large companies will go out of business if the government does not regulate the manufacture of the product.
- B. It would cost more to convert the production lines of the small companies to a new set of manufacturing specifications than it would to convert the production lines of the large companies.
- C. Industry lobbyists will be unable to dissuade the government from regulating the industry.
- D. Assembly of the product produced according to government manufacturing specifications would be more complex than current assembly procedures.
- E. None of the seven small companies currently manufactures the product to a set of specifications that would match those the government would institute if the industry were to be regulated.

Answer:

Q39:

Past assessments of the Brazilian rain forest have used satellite images to tally deforested areas, where farmers and ranchers have clear-cut and burned all the trees, but such work has not addressed either logging, which is the removal of only selected trees, as well as surface fires, burning down individual trees but do not denude the forest.

- A. which is the removal of only selected trees, as well as surface fires, burning
- B. which removes only selected trees, or surface fires that burn
- C. which removes only selected trees, along with surface fires that burn
- D. removing only selected trees, or surface fires, burning
- E. removing only selected trees, as well as surface fires that burn

Answer:

Q40:

It is theoretically possible that bacteria developed on Mars early in its history and that some were carried to Earth by a meteorite. However, strains of bacteria from different planets would probably have substantial differences in protein structure that would persist over time, and no two bacterial strains on Earth are different enough to have arisen on different planets. So, even if bacteria did arrive on Earth from Mars, they must have died out.

The argument is most vulnerable to which of the following criticisms?

- A. It fails to establish whether bacteria actually developed on Mars.
- B. It fails to establish how likely it is that Martian bacteria were transported to Earth.
- C. It fails to consider whether there were means other than meteorites by which Martian bacteria could have been carried to Earth.
- D. It fails to consider whether all bacteria now on Earth could have arisen from transported Martian bacteria.
- E. It fails to consider whether there could have been strains of bacteria that originated on Earth and later died out.

Answer:

Q41:

The greatest road system built in the Americas prior to the arrival of Christopher Columbus was the Incan highway, which, over 2,500 miles long and extending from northern Ecuador through Peru to Southern Chile.

- A. Columbus was the Incan highway, which, over 2,500 miles long and extending
- B. Columbus was the Incan highway, over 2,500 miles in length, and extended
- C. Columbus, the Incan highway, which was over 2,500 miles in length and extended
- D. Columbus, the Incan highway, being over 2,500 miles in length, was extended
- E. Columbus, the Incan highway was over 2,500 miles long, extending

Answer:

SET SIX

PART I

Q1:

If Henry were to add 5 gallons of water to a tank that is already $\frac{3}{4}$ full of water, the tank would be $\frac{7}{8}$ full. How many gallons of water would the tank hold if it were full?

- Z. 25
- AA. 40
- BB. 64
- CC. 80
- DD. 96

Answer:

Q2:

$$\sqrt{2\sqrt{63} + \frac{2}{8+3\sqrt{7}}} =$$

- A. $8 + 3\sqrt{7}$
- B. $4 + 3\sqrt{7}$
- C. 8
- D. 4
- E. $\sqrt{7}$

Answer:

Q3:

For all positive integers m and v , the expression $m \ominus v$ represents the remainder when m is divided by v . What is the value of $((98 \ominus 33) \ominus 17) - (98 \ominus (33 \ominus 17))$?

- A. -10
- B. -2
- C. 8
- D. 13
- E. 17

Answer:

Q4:

Is the number of members of Club X greater than the number of members of Club Y ?

- (1) Of the members of Club X , 20 percent are also members of Club Y .
- (2) Of the members of Club Y , 30 percent are also members of Club X .

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
- D. **EACH** statement **ALONE** is sufficient.
- E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q5:

If k , m , and t are positive integers and $\frac{k}{6} + \frac{m}{4} = \frac{t}{12}$, do t and 12 have a common factor greater than 1 ?

- (1) k is a multiple of 3.
- (2) m is a multiple of 3.

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
D. **EACH** statement **ALONE** is sufficient.
E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q6:

If water is leaking from a certain tank at a constant rate of 1,200 milliliters per hour, how many seconds does it take for 1 milliliter of water to leak from the tank?

- A. $\frac{1}{3}$
B. $\frac{1}{2}$
C. 2
D. 3
E. 20

Answer:

Q7:

On an aerial photograph, the surface of a pond appears as circular region of radius $\frac{7}{16}$ inch. If a distance of 1 inch on the photograph corresponds to an actual distance of 2 miles, which of the following is the closest estimate of the actual surface area of the pond, in square miles?

- A. 1.3
B. 2.4
C. 3.0
D. 3.8
E. 5.0

Answer:

Q8:

How many integers from 0 to 50, inclusive, have a remainder of 1 when divided by 3 ?

- A. 15
B. 16
C. 17
D. 18
E. 19

Answer:

Q9:

Yesterday Diana spent a total of 240 minutes attending a training class, responding to E-mails, and talking on the phone. If she did no two of these three activities at the same time, how much time did she spend talking on the phone?

- (1) Yesterday the amount of time that Diana spent attending the training class was 90 percent of the amount of time that she spent responding to E-mails.
- (2) Yesterday the amount of time that Diana spent attending the training class was 60 percent of the total amount of time that she spent responding to E-mails and talking on the phone.

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
- D. **EACH** statement **ALONE** is sufficient.
- E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q10:

If $x^2 + 3x + c = (x + a)(x + b)$ for all x , what is the value of c ?

- (1) $a = 1$
- (2) $b = 2$

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
- D. **EACH** statement **ALONE** is sufficient.
- E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q11:

If $3^{6x} = 8,100$, what is the value of $(3^{x-1})^3$?

- A. 90
- B. 30
- C. 10
- D. $\frac{10}{3}$
- E. $\frac{10}{9}$

Answer:

Q12:

What is the cube root of w ?

- (1) The 5th root of w is 64.
- (2) The 15th root of w is 4.

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
- D. **EACH** statement **ALONE** is sufficient.
- E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q13:

Is the number of seconds required to travel d_1 feet at r_1 feet per second greater than the number of seconds required to travel d_2 feet at r_2 feet per second?

- (1) d_1 is 30 greater than d_2 .
- (2) r_1 is 30 greater than r_2 .

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
- D. **EACH** statement **ALONE** is sufficient.
- E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q14:

Six cards numbered from 1 to 6 are placed in an empty bowl. First one card is drawn and then put back into the bowl; then a second card is drawn. If the cards are drawn at random and if the sum of the numbers on the cards is 8, what is the probability that one of the two cards drawn is numbered 5 ?

- A. $\frac{1}{6}$
- B. $\frac{1}{5}$
- C. $\frac{1}{3}$
- D. $\frac{2}{5}$
- E. $\frac{2}{3}$

Answer:

Q15:

If the sum of 5, 8, 12, and 15 is equal to the sum of 3, 4, x , and $x + 3$, what is the value of x ?

- A. 14
- B. 15
- C. 16
- D. 17
- E. 18

Answer:

Q16:

If $n > 0$, which is greater, 20 percent of n or 10 percent of the sum of n and 0.5 ?

- (1) $n < 0.1$
- (2) $n > 0.01$

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
- D. **EACH** statement **ALONE** is sufficient.
- E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q17:

How many prime numbers between 1 and 100 are factors of 7,150 ?

- A. One
- B. Two
- C. Three
- D. Four
- E. Five

Answer:

Q18:

Each week, Harry is paid x dollars per hour for the first 30 hours and $1.5x$ dollars for each additional hour worked that week. Each week, James is paid x dollars per hour for the first 40 hours and $2x$ dollars for each additional hour worked that week. Last week James worked a total of 41 hours. If Harry and James were paid the same amount last week, how many hours did Harry work last week?

- A. 35
- B. 36
- C. 37
- D. 38
- E. 39

Answer:

Q19:

A certain company that sells only cars and trucks reported that revenues from car sales in 1997 were down 11 percent from 1996 and revenues from truck sales in 1997 were up 7 percent from 1996. If total revenues from car sales and truck sales in 1997 were up 1 percent from 1996, what is the ratio of revenue from car sales in 1996 to revenue from truck sales in 1996 ?

- A. 1 : 2
- B. 4 : 5
- C. 1 : 1
- D. 3 : 2
- E. 5 : 3

Answer:

Q20:

What is the ratio of the average (arithmetic mean) height of students in class X to the average height of students in class Y ?

- (1) The average height of the students in class X is 120 centimeters.
- (2) The average height of the students in class X and class Y combined is 126 centimeters.

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
- D. **EACH** statement **ALONE** is sufficient.
- E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q21:

$k, n, 12, 6, 17$

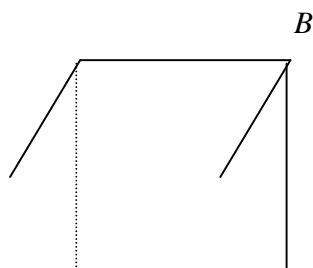
What is the value of n in the list above?

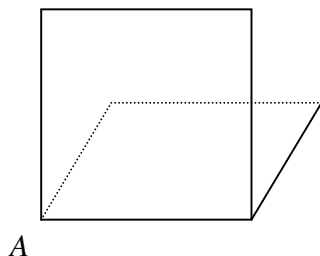
- (1) $k < n$
- (2) The median of the numbers in the list is 10.

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
- D. **EACH** statement **ALONE** is sufficient.
- E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q22:





What is the volume of the cube above?

- (1) The surface area of the cube is 600 square inches.
- (2) The length of diagonal AB is $10\sqrt{3}$ inches.

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
- D. **EACH** statement **ALONE** is sufficient.
- E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

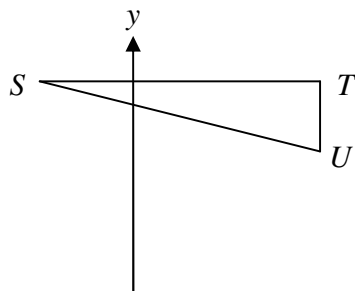
Q23:

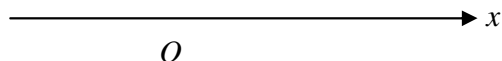
For any integer k greater than 1, the symbol k^* denotes the product of all the fractions of the form $\frac{1}{t}$, where t is an integer between 1 and k , inclusive. What is the value of $\frac{5^*}{4^*}$?

- F. 5
- G. $\frac{5}{4}$
- H. $\frac{4}{5}$
- I. $\frac{1}{4}$
- J. $\frac{1}{5}$

Answer:

Q24:





In the figure shown, line segments ST and TU are parallel to the x -axis and the y -axis, respectively. What is the sum of the coordinates of point T ?

- (1) The y -coordinate of point U is 1.
- (2) The x -coordinate of point S is -5 .

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
- D. **EACH** statement **ALONE** is sufficient.
- E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q25:

The buyer of a new home must choose 2 of 4 types of flooring and 2 of 6 paint colors. How many different combinations of type of flooring and paint color are available to the home buyer?

- A. 4
- B. 24
- C. 48
- D. 90
- E. 96

Answer:

Q26:

What is the value of x^5 ?

- (1) $x^2 = 9$
- (2) $x^3 > 9$

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
- D. **EACH** statement **ALONE** is sufficient.
- E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q27:

In a certain sequence of 8 numbers, each number after the first is 1 more than the previous number. If the first number is -5 , how many of the numbers in the sequence are positive?

- A. None
- B. One
- C. Two
- D. Three
- E. Four

Answer:

Q28:

A straight line in the xy -plane has a slope of 2 and a y -intercept of 2. On this line, what is the x -coordinate of the point whose y -coordinate is 500 ?

- A. 249
- B. 498
- C. 676
- D. 823
- E. 1,002

Answer:

Q29:

A total of \$60,000 was invested for one year. Part of this amount earned simple annual interest at the rate of x percent per year, and the rest earned simple annual interest at the rate of y percent per year. If the total interest earned by the \$60,000 for that year was \$4,080, what is the value of x ?

(1) $x = \frac{3y}{4}$

- (2) The ratio of the amount that earned interest at the rate of x percent per year to the amount that earned interest at the rate of y percent per year was 3 to 2.

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
- D. **EACH** statement **ALONE** is sufficient.
- E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q30:

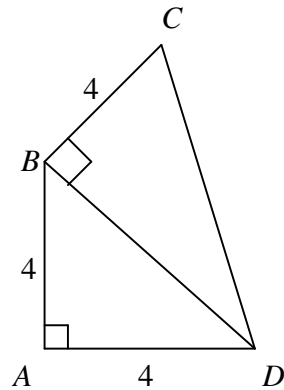
A glass was filled with 10 ounces of water, and 0.01 ounce of the water evaporated each day during a 20-day period. What percent of the original amount of water evaporated during this period?

- A. 0.002%
- B. 0.02%
- C. 0.2%
- D. 2%

E. 20%

Answer:

Q31:



In the figure, what is the area of triangular region BCD ?

- A. $4\sqrt{2}$
- B. 8
- C. $8\sqrt{2}$
- D. 16
- E. $16\sqrt{2}$

Answer:

Q32:

If $x > 0$, is $x^2 < x$?

- (1) $0.1 < x < 0.4$
- (2) $x^3 < x^2$

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
- D. **EACH** statement **ALONE** is sufficient.
- E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q33:

At Company X senior sales representatives visit the home office once every 30 days, and junior sales representatives visit the home office once every 20 days. The number of visits that a junior sales representative makes in a 2-year period is approximately what percent greater than the number of visits that a senior representative makes in the same period?

- A. 10%

- B. 25%
- C. 33%
- D. 50%
- E. 67%

Answer:

Q34:

What is the value of x ?

- (1) $x^2 + y^2 = 25$
- (2) $xy = 12$

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
- D. **EACH** statement **ALONE** is sufficient.
- E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q35:

A clothing store acquired an item at a cost of x dollars and sold the item for y dollars. The store's gross profit from the item was what percent of its cost for the item?

- (1) $y - x = 20$
- (2) $\frac{y}{x} = \frac{5}{4}$

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
- D. **EACH** statement **ALONE** is sufficient.
- E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q36:

If a and b are positive integers such that $a - b$ and $\frac{a}{b}$ are both even integers, which of the following must be an odd integer?

- A. $\frac{a}{2}$
- B. $\frac{b}{2}$
- C. $\frac{a+b}{2}$

- D. $\frac{a+2}{2}$
 E. $\frac{b+2}{2}$

Answer:

Q37:

During a trip, Francine traveled x percent of the total distance at an average speed of 40 miles per hour and the rest of the distance at an average speed of 60 miles per hour. In terms of x , what was Francine's average speed for the entire trip?

- A. $\frac{180-x}{2}$
 B. $\frac{x+60}{4}$
 C. $\frac{300-x}{5}$
 D. $\frac{600}{115-x}$
 E. $\frac{12,000}{x+200}$

Answer:

PART II

Q1:

Although producer prices rose at an unexpectedly steep rate in September, analysts said that the increase resulted mostly from temporary factors and not necessarily foreshadowing that there would be a resurgence of inflation.

- JJ. factors and not necessarily foreshadowing that there would be
 KK. factors and not necessarily that it foreshadowed
 LL. factors and did not necessarily foreshadow
 MM. factors, while not necessarily a foreshadowing of
 NN. factors, while it did not necessarily foreshadow that there would be

Answer:

Q2:

The first commercially successful drama to depict Black family life sympathetically and the first play by a Black woman to be produced on Broadway, it was Lorraine Hansberry's *A Raisin in the Sun* that won the New York Drama Critics' Circle Award in 1959, and was later made into both a film and a musical.

- A. it was Lorraine Hansberry's *A Raisin in the Sun* that won the New York Drama Critics' Circle Award in 1959, and was later made
- B. in 1959 *A Raisin in the Sun*, by Lorraine Hansberry, won the New York Drama Critics' Circle Award and was later made
- C. Lorraine Hansberry won the New York Drama Critics' Circle Award for *A Raisin in the Sun* in 1959, and it was later made
- D. Lorraine Hansberry's *A Raisin in the Sun* won the New York Drama Critics' Circle Award in 1959 and was later made
- E. *A Raisin in the Sun*, by Lorraine Hansberry, won the New York Drama Critics' Circle Award in 1959, and later made it

Answer:

Q3:

The state has proposed new rules that would set minimum staffing levels for nurses, rules intended to ensure that at least one nurse is assigned for every four patients put through triage in a hospital emergency room.

- A. rules intended to ensure that at least one nurse is assigned for every four patients put through triage in a hospital emergency room
- B. rules with the intent of ensuring one nurse at least to be assigned for every four patients to be put through triage in a hospital emergency room
- C. rules intending to ensure at least one nurse is assigned for every four patients in a hospital emergency room put through triage
- D. with the intent of ensuring that at least one nurse should be assigned for every four patients in a hospital emergency room that are put through triage
- E. and this is intended to ensure one nurse at least to be assigned for every four patients put through triage in a hospital emergency room

Answer:

Q4:

Only seven people this century have been killed by the great white shark, the man-eater of the movies—less than those killed by bee stings.

- A. movies—less than those
- B. movies—fewer than have been
- C. movies, which is less than those
- D. movies, a number lower than the people
- E. movies, fewer than the ones

Answer:

Q5:

Exposure to certain chemicals commonly used in elementary schools as cleaners or pesticides causes allergic reactions in some children. Elementary school nurses in Renston report that the proportion of schoolchildren sent to them for treatment of allergic reactions to those chemicals has increased significantly over the past ten years. Therefore, either Renston's schoolchildren have been exposed to greater quantities of the chemicals, or they are more sensitive to them than schoolchildren were ten years ago.

Which of the following is an assumption on which the argument depends?

- P. The number of school nurses employed by Renston's elementary schools has not decreased over the past ten years.
- Q. Children who are allergic to the chemicals are no more likely than other children to have allergies to other substances.
- R. Children who have allergic reactions to the chemicals are not more likely to be sent to a school nurse now than they were ten years ago.
- S. The chemicals are not commonly used as cleaners or pesticides in houses and apartment buildings in Renston.
- T. Children attending elementary school do not make up a larger proportion of Renston's population now than they did ten years ago.

Answer:

Q6 to Q9:

- For many years, theoretical economists characterized humans as rational beings relentlessly bent on maximizing purely selfish reward.
- Line* (5) Results of an experimental economics study appear to contradict this view, however. In the "Ultimatum Game," two subjects, who cannot exchange information, are placed in separate
- (10) rooms. One is randomly chosen to propose how a sum of money, known to both, should be shared between them; only one offer, which must be accepted or rejected without
- (15) negotiation, is allowed.
- If, in fact, people are selfish and rational, then the proposer should offer the smallest possible share, while the responder should accept any offer,
- (20) no matter how small: after all, even one dollar is better than nothing. In numerous trials, however, two-thirds of the offers made were between 40 and 50 percent; only 4 percent

- (25) were less than 20 percent. Among responders, more than half who were offered less than 20 percent rejected the offer. Behavior in the game did not appreciably depend on the players' sex, age, or education. Nor did the amount of money involved play a significant role: for instance, in trials of the game that were conducted in Indonesia, the sum to be shared was as much as three times the subjects' average monthly income, and still responders refused offers that they deemed too small.
-

Q6:

The primary purpose of the passage is to

- P. provide evidence in support of the view that human beings are essentially rational and selfish
- Q. use a particular study to challenge the argument that the economic behavior of human beings may be motivated by factors other than selfishness
- R. compare certain views about human nature held by theoretical economists with those held by experimental economists
- S. describe a study that apparently challenges theoretical economists' understanding of human economic behavior
- T. suggest that researchers may have failed to take into account the impact of certain noneconomic factors in designing a study of human economic behavior

Answer:

Q7:

The passage implies that the results of the Ultimatum Game undermine theoretical economists' characterization of human beings by

- EE. demonstrating that most people are inclined to try to maximize their own advantage whenever possible
- FF. indicating that people who do not have the option of negotiating might behave more generously than do those who have the option of negotiating
- GG. illustrating how people's economic behavior depends to some extent on how large a sum of money is involved
- HH. showing that most people instinctively place their own economic self-interest ahead of the interest of strangers
- II. suggesting that people's economic behavior might in part be motivated by factors other than selfishness

Answer:

Q8:

The author refers to the sum of one dollar (line 21) in order to

- Z. question the notion that the amount of money involved significantly affected players' behavior
- AA. provide an example of one of the rare offers made by proposers that was less than 20 percent
- BB. illustrate the rationality of accepting even a very small offer
- CC. suggest a reason that responders rejected offers that were less than 20 percent
- DD. challenge the conclusion that a selfish and rational proposer should offer a responder the smallest possible share

Answer:

Q9:

All of the following are expressly mentioned in the passage as factors that did not significantly affect players' behavior EXCEPT the

- EE. players' level of schooling
- FF. amount of money to be shared
- GG. ages of the players
- HH. players' professions
- II. genders of the players

Answer:

Q10 to Q12:

- Linda Kerber argued in the mid-1980's that after the American Revolution (1775-1783), an ideology of "republican motherhood" resulted in a surge of educational opportunities for women in the United States. Kerber maintained that the leaders of the new nation wanted women to be educated in order to raise politically virtuous sons. A virtuous citizenry was considered essential to the success of the country's republican form of government; virtue was to be instilled not only by churches and schools, but by families, where the mother's role was crucial. Thus, according to Kerber, motherhood became pivotal to the fate of the republic, providing justification for an unprecedented attention to female education.
- (20) Introduction of the republican moth-

- erhood thesis dramatically changed historiography. Prior to Kerber's work, educational historians barely mentioned women and girls; Thomas Woody's 1929
- (25) work is the notable exception. Examining newspaper advertisements for academies, Woody found that educational opportunities increased for both girls and boys around 1750. Pointing to "An
- (30) Essay on Woman" (1753) as reflecting a shift in view, Woody also claimed that practical education for females had many advocates before the Revolution. Woody's evidence challenges the notion
- (35) that the Revolution changed attitudes regarding female education, although it may have accelerated earlier trends. Historians' reliance on Kerber's "republican motherhood" thesis may have
- (40) obscured the presence of these trends, making it difficult to determine to what extent the Revolution really changed women's lives.

Q10:

According to the passage, within the field of educational history, Thomas Woody's 1929 work was

- A. innovative because it relied on newspaper advertisements as evidence
- B. exceptional in that it concentrated on the period before the American Revolution
- C. unusual in that it focused on educational attitudes rather than on educational practices
- D. controversial in its claims regarding educational opportunities for boys
- E. atypical in that it examined the education of girls

Answer:

Q11:

According to the passage, Kerber argued that political leaders thought that the form of government adopted by the United States after the American Revolution depended on which of the following for its success?

- A. Women assuming the sole responsibility for instilling political virtue in children
- B. Girls becoming the primary focus of a reformed educational system that emphasized political virtue
- C. The family serving as one of the primary means by which children were imbued with political virtue

- D. The family assuming many of the functions previously performed by schools and churches
- E. Men and women assuming equal responsibility for the management of schools, churches, and the family

Answer:

Q12:

The passage suggests that, with regard to the history of women's education in the United States, Kerber's work differs from Woody's primarily concerning which of the following?

- A. The extent to which women were interested in pursuing educational opportunities in the eighteenth century
- B. The extent of the support for educational opportunities for girls prior to the American Revolution
- C. The extent of public resistance to educational opportunities for women after the American Revolution
- D. Whether attitudes toward women's educational opportunities changed during the eighteenth century
- E. Whether women needed to be educated in order to contribute to the success of a republican form of government

Answer:

Q13:

Like the grassy fields and old pastures that the upland sandpiper needs for feeding and nesting when it returns in May after wintering in the Argentine Pampas, the sandpipers vanishing in the northeastern United States is a result of residential and industrial development and of changes in farming practices.

- A. the sandpipers vanishing in the northeastern United States is a result of residential and industrial development and of changes in
- B. the bird itself is vanishing in the northeastern United States as a result of residential and industrial development and of changes in
- C. that the birds themselves are vanishing in the northeastern United States is due to residential and industrial development and changes to
- D. in the northeastern United States, sandpipers' vanishing is due to residential and industrial development and to changes in
- E. in the northeastern United States, the sandpipers' vanishing, a result of residential and industrial development and changing

Answer:

Q14:

Certain politicians in the country of Birangi argue that a 50 percent tax on new automobiles would halt the rapid increase of automobiles on Birangi's roads and thereby slow the deterioration of Birangi's air quality. Although most experts agree that such a tax would result in fewer Birangians buying new vehicles and gradually reduce the

number of automobiles on Birangi's roads, they contend that it would have little impact on Birangi's air-quality problem.

Which of the following, if true in Birangi, would most strongly support the experts' contention about the effect of the proposed automobile tax on Birangi's air-quality problem?

- A. Automobile emissions are the largest single source of air pollution.
- B. Some of the proceeds from the new tax would go toward expanding the nonpolluting commuter rail system.
- C. Currently, the sales tax on new automobiles is considerably lower than 50 percent.
- D. Automobiles become less fuel efficient and therefore contribute more to air pollution as they age.
- E. The scrapping of automobiles causes insignificant amounts of air pollution.

Answer:

Q15:

The city has proposed a number of water treatment and conservation projects the cost of which raises water bills high enough so that even environmentalists are beginning to raise alarms.

- A. the cost of which raises water bills high enough so that
- B. at a cost raising water bills so high that
- C. at a cost which raises water bills high enough so
- D. whose cost will raise water bills so high that
- E. whose cost will raise water bills high enough so that

Answer:

Q16:

The fact of some fraternal twins resembling each other greatly and others looking quite dissimilar highlights an interesting and often overlooked feature of fraternal-twin pairs, namely they vary considerably on a spectrum of genetic relatedness.

- F. The fact of some fraternal twins resembling each other greatly and others looking quite dissimilar highlights an interesting and often overlooked feature of fraternal-twin pairs, namely they vary considerably
- G. That some fraternal twins resemble each other greatly while others look quite dissimilar highlights an interesting and often overlooked feature of fraternal-twin pairs, namely that they vary considerably
- H. With some fraternal twins resembling each other greatly and others looking quite dissimilar, it highlights an interesting and often overlooked feature of fraternal-twin pairs, namely considerable variation
- I. With some fraternal twins resembling each other greatly and others looking quite dissimilar, it is a fact that highlights an interesting and often overlooked feature of fraternal-twin pairs, namely a considerable variation

- J. Because some fraternal twins resemble each other greatly and others look quite dissimilar, this fact highlights an interesting and often overlooked feature of fraternal-twin pairs, namely they vary considerably

Answer:

Q17:

Of patients over 65 years old who survived coronary bypass surgery—a procedure widely prescribed for people with heart disease—only 75 percent benefited from the surgery. Thus it appears that for one in four such patients, the doctors who advised them to undergo this surgery, with its attendant risks and expense, were more interested in an opportunity to practice their skills and in their fee than in helping the patient.

Which of the following, if true, most seriously undermines the argument?

- A. Many of the patients who receive coronary bypass surgery are less than 55 years old.
- B. Possible benefits of coronary bypass surgery include both relief from troubling symptoms and prolongation of life.
- C. Most of the patients in the survey decided to undergo coronary bypass surgery because they were advised that the surgery would reduce their risk of future heart attacks.
- D. The patients over 65 years old who did not benefit from the coronary bypass surgery were as fully informed as those who did benefit from the surgery as to the risks of the surgery prior to undergoing it.
- E. The patients who underwent coronary bypass surgery but who did not benefit from it were medically indistinguishable, prior to their surgery, from the patients who did benefit.

Answer:

Q18:

Although the earliest surviving Greek inscriptions written in an alphabet date from the eighth century B.C., a strong case can be made that **the Greeks actually adopted alphabetic writing at least two centuries earlier**. Significantly, the text of these earliest surviving Greek inscriptions sometimes runs from right to left and sometimes from left to right. Now, the Greeks learned alphabetic writing from the Phoenicians, and in the process **they would surely have adopted whatever convention the Phoenicians were then using with respect to the direction of writing**. Originally, Phoenician writing ran in either direction, but by the eighth century B.C. it had been consistently written from right to left for about two centuries.

In the argument given, the two portions in **boldface** play which of the following roles?

- A. The first is the position that the argument seeks to establish; the second reports a discovery that has been used to support a position that the argument opposes.
- B. The first is the position that the argument seeks to establish; the second presents an assumption on which the argument relies.

- C. The first presents evidence that is used in support of the position that the argument seeks to establish; the second presents an assumption on which the argument relies.
- D. The first is an objection raised against a position that the argument opposes; the second is the position that the argument seeks to establish.
- E. The first is an objection raised against a position that the argument opposes; the second is evidence that has been used to support that position.

Answer:

Q19:

A study by the Ocean Wildlife Campaign urged states to undertake a number of remedies to reverse a decline in the shark population, which includes the establishment of size limits for shark catches, closing state waters for shark fishing during pupping season, and requiring commercial fishers to have federal shark permits.

- A. which includes the establishment of size limits for shark catches, closing
- B. which includes establishing limits to the size of sharks that can be caught, closing
- C. which include the establishment of size limits for shark catches, the closing of
- D. including establishing size limits for shark catches, closing
- E. including the establishing of limits to the size of sharks that are caught, the closing of

Answer:

Q20:

The first trenches that were cut into a 500-acre site at Tell Hamoukar, Syria, have yielded strong evidence for centrally administered complex societies in northern regions of the Middle East that were arising simultaneously with but independently of the more celebrated city-states of southern Mesopotamia, in what is now southern Iraq.

- A. that were cut into a 500-acre site at Tell Hamoukar, Syria, have yielded strong evidence for centrally administered complex societies in northern regions of the Middle East that were arising simultaneously with but
- B. that were cut into a 500-acre site at Tell Hamoukar, Syria, yields strong evidence that centrally administered complex societies in northern regions of the Middle East were arising simultaneously with but also
- C. having been cut into a 500-acre site at Tell Hamoukar, Syria, have yielded strong evidence that centrally administered complex societies in northern regions of the Middle East were arising simultaneously but
- D. cut into a 500-acre site at Tell Hamoukar, Syria, yields strong evidence of centrally administered complex societies in northern regions of the Middle East arising simultaneously but also
- E. cut into a 500-acre site at Tell Hamoukar, Syria, have yielded strong evidence that centrally administered complex societies in northern regions of the Middle East arose simultaneously with but

Answer:

Q21:

Which of the following most logically completes the passage?

Each species of moth has an optimal body temperature for effective flight, and when air temperatures fall much below that temperature, the moths typically have to remain inactive on vegetation for extended periods, leaving them highly vulnerable to predators. In general, larger moths can fly faster than smaller ones and hence have a better chance of evading flying predators, but they also have higher optimal body temperatures, which explains why _____.

- A. large moths are generally able to maneuver better in flight than smaller moths
- B. large moths are proportionally much more common in warm climates than in cool climates
- C. small moths are more likely than large moths to be effectively camouflaged while on vegetation
- D. large moths typically have wings that are larger in proportion to their body size than smaller moths do
- E. most predators of moths prey not only on several different species of moth but also on various species of other insects

Answer:

Q22 to Q25:

Earth's surface consists of rigid plates that are constantly shifting and jostling one another. Plate movements are the surface expressions of motions in the mantle—the thick shell of rock that lies between Earth's crust and its metallic core. Although the hot rock of the mantle is a solid, under the tremendous pressure of the crust and overlying rock of the mantle, it flows like a viscous liquid. The mantle's motions, analogous to those in a pot of boiling water, cool the mantle by carrying hot material to the surface and returning cooler material to the depths. When the edge of one plate bends under another and its cooler material is consumed in the mantle, volcanic activity occurs as molten lava rises from the downgoing plate and erupts through the overlying one.

Most volcanoes occur at plate boundaries. However, certain “misplaced” volcanoes far from plate

- (25) edges result from a second, independent mechanism that cools the deep interior of Earth. Because of its proximity to Earth's core, the rock at the base of the mantle is much hotter than rock in the upper mantle. The hotter the mantle rock is, the less it resists flowing. Reservoirs of this hot rock collect in the base of the mantle. When a reservoir is sufficiently large, a sphere of this hot rock forces its way up through the upper mantle to Earth's surface, creating a broad bulge in the topography. The "mantle plume" thus formed, once established, continues to channel hot material from the mantle base until the reservoir is emptied. The surface mark of an established plume is a hot spot—an isolated region of volcanoes and uplifted terrain located far from the edge of a surface plate. **Because the source of a hot spot remains fixed while a surface plate moves over it, over a long period of time an active plume creates a chain of volcanoes or volcanic islands, a track marking the position of the plume relative to the moving plate.** The natural history of the Hawaiian island chain clearly shows the movement of the Pacific plate over a fixed plume.
-

Q22:

The passage is primarily concerned with discussing

- A. the composition of Earth's mantle
- B. how the Hawaiian Islands were created
- C. what causes Earth's surface plates to move
- D. two different mechanisms by which volcanoes are formed
- E. why most volcanoes occur at plate boundaries

Answer:

Q23:

It can be inferred from the passage that a chain of volcanoes created by a mantle plume would most likely be characterized by

- A. a curved outline
- B. constituent volcanoes that differ from each other in age
- C. occurrence near a plate boundary where one plate bends under another
- D. appearance near many other volcanic chains
- E. rocks with a wide range of chemical composition

Answer:

Q24:

The author's reference to the Hawaiian Islands serves primarily to

- A. provide an example of a type of volcanic activity that does not occur elsewhere
- B. identify the evidence initially used to establish that the Pacific plate moves
- C. call into question a theory about the source of the volcanoes that created the Hawaiian Islands
- D. illustrate the distance from plate edges at which volcanoes typically appear
- E. provide an example of how mantle plumes manifest themselves on Earth's surface

Answer:

Q25:

According to the passage, a hot spot on Earth's surface is an indication of which of the following?

- A. An untapped reservoir of hot rock in the base of the mantle
- B. Volcanic activity at the edge of a plate
- C. Solid mantle rock under tremendous pressure
- D. The occurrence of a phenomenon unique to the Pacific plate
- E. A plume of hot mantle rock originating near Earth's core

Answer:

Q26:

The Organization of Petroleum Exporting Countries (OPEC) had long been expected to announce a reduction in output to bolster sagging oil prices, but officials of the organization just recently announced that the group will pare daily production by 1.5 million barrels by the beginning of next year, but only if non-OPEC nations, including Norway, Mexico, and Russia, were to trim output by a total of 500,000 barrels a day.

- A. year, but only if non-OPEC nations, including Norway, Mexico, and Russia, were to trim output
- B. year, but only if the output of non-OPEC nations, which includes Norway, Mexico, and Russia, is trimmed
- C. year only if the output of non-OPEC nations, including Norway, Mexico, and Russia, would be trimmed
- D. year only if non-OPEC nations, which includes Norway, Mexico, and Russia, were trimming output
- E. year only if non-OPEC nations, including Norway, Mexico, and Russia, trim output

Answer:

Q27:

A significant number of complex repair jobs carried out by Ace Repairs have to be reworked under the company's warranty. The reworked jobs are invariably satisfactory. When initial repairs are inadequate, therefore, it is not because the mechanics lack competence; rather, there is clearly a level of focused concentration that complex repairs require that is elicited more reliably by rework jobs than by first-time jobs.

The argument above assumes which of the following?

- A. There is no systematic difference in membership between the group of mechanics who do first-time jobs and the group of those who do rework jobs.
- B. There is no company that successfully competes with Ace Repairs for complex repair jobs.
- C. Ace Repairs' warranty is good on first-time jobs but does not cover rework jobs.
- D. Ace Repairs does not in any way penalize mechanics who have worked on complex repair jobs that later had to be reworked.
- E. There is no category of repair jobs in which Ace Repairs invariably carries out first-time jobs satisfactorily.

Answer:

Q28:

Historian: In the Drindian Empire, censuses were conducted annually to determine the population of each village. **Village census records for the last half of the 1600's are remarkably complete.** This very completeness makes one point stand out; in five different years, villages overwhelmingly reported significant population declines. Tellingly, each of those five years immediately followed an increase in a certain Drindian tax. This tax, which was assessed on villages, was computed by the central government using the annual census figures. Obviously, whenever the tax went up, villages had an especially powerful economic incentive to minimize the number of people they recorded; and concealing the size of a village's population from government census takers would have been easy. Therefore, it is reasonable to think that **the reported declines did not happen.**

In the historian's argument, the two portions in **boldface** play which of the following roles?

- F. The first supplies a context for the historian's argument; the second acknowledges a consideration that has been used to argue against the position the historian seeks to establish.
- G. The first presents evidence to support the position that the historian seeks to establish; the second acknowledges a consideration that has been used to argue against that position.
- H. The first provides a context for certain evidence that supports the position that the historian seeks to establish; the second is that position.

- I. The first is a position for which the historian argues; the second is an assumption that serves as the basis of that argument.
- J. The first is an assumption that the historian explicitly makes in arguing for a certain position; the second acknowledges a consideration that calls that assumption into question.

Answer:

Q29:

A leading figure in the Scottish enlightenment, Adam Smith's two major books are to democratic capitalism what Marx's *Das Kapital* is to socialism.

- F. Adam Smith's two major books are to democratic capitalism what
- G. Adam Smith's two major books are to democratic capitalism like
- H. Adam Smith's two major books are to democratic capitalism just as
- I. Adam Smith wrote two major books that are to democratic capitalism similar to
- J. Adam Smith wrote two major books that are to democratic capitalism what

Answer:

Q30:

Printwell's Ink Jet Division manufactures ink-jet printers and the ink cartridges they use. Sales of its ink-jet printers have increased. Monthly revenues from those sales, however, have not increased, because competition has forced Printwell to cut the prices of its printers. Unfortunately, Printwell has been unable to bring down the cost of manufacturing a printer. Thus, despite the increase in printer sales, the Ink Jet Division must be providing the company with much smaller than it used to.

Which of the following, if true, most seriously weakens the argument?

- A. Ink-jet printers in regular use frequently need new ink cartridges, and Printwell's printers only accept Printwell's ink cartridges.
- B. Unlike some competing companies, Printwell sells all of its printers through retailers, and these retailers' costs account for a sizable proportion of the printers' ultimate retail price.
- C. Some printer manufacturers have been forced to reduce the sale price of their ink-jet printers even more than Printwell has.
- D. In the past year, no competing manufacturer of ink-jet printers has had as great an increase in unit sales of printers as Printwell has.
- E. In the past year, sales of Printwell's ink-jet printers have increased more than sales of any other type of printer made by Printwell.

Answer:

Q31:

Unlike the original National Museum of Science and Technology in Italy, where the models are encased in glass or operated only by staff members, the Virtual Leonardo Project, an online version of the museum, encourages visitors to "touch" each exhibit, which thereby activates the animated functions of the piece.

- A. exhibit, which thereby activates
- B. exhibit, in turn an activation of
- C. exhibit, and it will activate
- D. exhibit and thereby activate
- E. exhibit which, as a result, activates

Answer:

Q32:

A surge in new home sales and a drop in weekly unemployment claims suggest that the economy might not be as weak as some analysts previously thought.

- A. claims suggest that the economy might not be as weak as some analysts previously thought
- B. claims suggests that the economy might not be so weak as some analysts have previously thought
- C. claims suggest that the economy might not be as weak as have been previously thought by some analysts
- D. claims, suggesting about the economy that it might not be so weak as previously thought by some analysts
- E. claims, suggesting the economy might not be as weak as previously thought to be by some analysts

Answer:

Q33:

The health benefits of tea have been the subject of much research; in addition to its possibilities for preventing and inhibiting some forms of cancer, the brewed leaves of *Camellia sinensis* may also play a role in reducing the risk of heart disease and stroke.

- A. in addition to its possibilities for preventing and inhibiting
- B. in addition to its possibilities to prevent or inhibit
- C. besides the possibility that it prevents and inhibits
- D. besides the possible preventing and inhibiting of
- E. besides possibly preventing or inhibiting

Answer:

Q34 to Q36:

Line (5) Firms traditionally claim that they downsize (i.e., make permanent personnel cuts) for economic reasons, laying off supposedly unnecessary staff in an attempt to become more efficient and competitive. Organization theory would explain this reasoning as an example of the “economic rationality” that it assumes underlies all organi-

- (10) zational activities. There is evidence that firms believe they are behaving rationally whenever they downsize; yet recent research has shown that the actual economic effects of downsizing
- (15) are often negative for firms. Thus, organization theory cannot adequately explain downsizing; non-economic factors must also be considered. One such factor is the evolution of
- (20) downsizing into a powerful business myth: managers simply believe that downsizing is efficacious. Moreover, downsizing nowadays is greeted favorably by the business press; the
- (25) press often refers to soaring stock prices of downsizing firms (even though research shows that stocks usually rise only briefly after downsizing and then suffer a prolonged decline).
- (30) Once viewed as a sign of desperation, downsizing is now viewed as a signal that firms are serious about competing in the global marketplace; such signals are received positively by key actors—
- (35) financial analysts, consultants, shareholders—who supply firms with vital organizing resources. Thus, even if downsizers do not become economically more efficient, downsizing's mythic
- (40) properties give them added prestige in the business community, enhancing their survival prospects.

Q34:

The primary purpose of the passage is to

- A. criticize firms for engaging in the practice of downsizing
- B. analyze the negative economic impact of downsizing on firms
- C. offer an alternative to a traditional explanation for the occurrence of downsizing
- D. chronicle how perceptions of downsizing have changed over time
- E. provide evidence disputing the prevalence of downsizing

Answer:

Q35:

The passage suggests that downsizing's mythic properties can be beneficial to a downsizing firm because these properties

- A. allow the firm to achieve significant operating efficiencies
- B. provide the firm with access to important organizing resources
- C. encourage a long-term increase in the firm's stock price
- D. make the firm less reliant on external figures such as financial analysts and consultants
- E. discourage the firm's competitors from entering the global marketplace

Answer:

Q36:

The passage suggests which of the following about the claim that a firm will become more efficient and competitive by downsizing?

- A. Few firms actually believe this claim to be true.
- B. Fewer firms have been making this claim in recent years.
- C. This claim contradicts the basic assumption of organization theory.
- D. This claim is called into question by certain recent research.
- E. This claim is often treated with skepticism by the business press.

Answer:

Q37:

Escalating worldwide demand for corn has led to a sharp increase in the market price of corn, and corn prices are likely to remain high. Corn is extensively used as feed for livestock, and because profit margins are tight in the livestock business, many farmers are expected to leave the business. With fewer suppliers, meat prices will surely rise. Nonetheless, observers expect an immediate short-term decrease in meat prices.

Which of the following, if true, most helps to justify the observers' expectation?

- A. The increase in corn prices is due more to a decline in the supply of corn than to a growth in demand for it.
- B. Generally, farmers who are squeezed out of the livestock business send their livestock to market much earlier than they otherwise would.
- C. Some people who ate meat regularly in the past are converting to diets that include little or no meat.
- D. As meat prices rise, the number of livestock producers is likely to rise again.
- E. Livestock producers who stay in the business will start using feed other than corn more extensively than they did in the past.

Answer:

Q38:

Journalist: Well-known businessman Arnold Bergeron has long been popular in the state, and he has often talked about running for governor, but he has never run. However, we

have just learned that Bergeron has fulfilled the financial disclosure requirement for candidacy by submitting a detailed list of his current financial holdings to the election commission. So, it is very likely that Bergeron will be a candidate for governor this year.

The answer to which of the following questions would be most useful in evaluating the journalist's argument?

- A. Has anybody else who has fulfilled the financial disclosure requirement for the upcoming election reported greater financial holdings than Bergeron?
- B. Is submitting a list of holdings the only way to fulfill the election commission's financial disclosure requirements?
- C. Did the information recently obtained by the journalists come directly from the election commission?
- D. Have Bergeron's financial holdings increased in value in recent years?
- E. Had Bergeron also fulfilled the financial disclosure requirements for candidacy before any previous gubernatorial elections?

Answer:

Q39:

Seldom more than 40 feet wide and 12 feet deep, but it ran 363 miles across the rugged wilderness of upstate New York, the Erie Canal connected the Hudson River at Albany to the Great Lakes at Buffalo, providing the port of New York City with a direct water link to the heartland of the North American continent.

- A. Seldom more than 40 feet wide and 12 feet deep, but it ran 363 miles across the rugged wilderness of upstate New York, the Erie Canal connected
- B. Seldom more than 40 feet wide or 12 feet deep but running 363 miles across the rugged wilderness of upstate New York, the Erie Canal connected
- C. It was seldom more than 40 feet wide and 12 feet deep, and ran 363 miles across the rugged wilderness of upstate New York, but the Erie Canal, connecting
- D. The Erie Canal was seldom more than 40 feet wide or 12 feet deep and it ran 363 miles across the rugged wilderness of upstate New York, which connected
- E. The Erie Canal, seldom more than 40 feet wide and 12 feet deep, but running 363 miles across the rugged wilderness of upstate New York, connecting

Answer:

Q40:

Since February, the Federal Reserve has raised its short-term interest rate target five times, and because of the economy's continued strength, analysts have been predicting for weeks that the target will be raised again in November.

- A. because of the economy's continued strength, analysts have been predicting for weeks that the target will
- B. with the economy's strength continuing, analysts predicted for weeks that the target

- C. because the economy continues strong, analysts predicted for weeks that the target would
- D. due to the economy's continued strength, analysts have been predicting for weeks that the target
- E. due to the fact of the economy's continued strength, analysts predicted for weeks that the target will

Answer:

Q41:

Magazine Publisher: Our magazine does not have a liberal bias. It is true that when a book review we had commissioned last year turned out to express distinctly conservative views, we did not publish it until we had also obtained a second review that took a strongly liberal position. Clearly, however, our actions demonstrate not a bias in favor of liberal views but rather a commitment to a balanced presentation of diverse opinions.

Determining which of the following would be most useful in evaluating the cogency of the magazine publisher's response?

- A. Whether any other magazines in which the book was reviewed carried more than one review of the book
- B. Whether the magazine publishes unsolicited book reviews as well as those that it has commissioned
- C. Whether in the event that a first review commissioned by the magazine takes a clearly liberal position the magazine would make any efforts to obtain further reviews
- D. Whether the book that was the subject of the two reviews was itself written from a clearly conservative or a clearly liberal point of view
- E. Whether most of the readers of the magazine regularly read the book reviews that the magazine publishes

Answer:

SET SEVEN

PART I

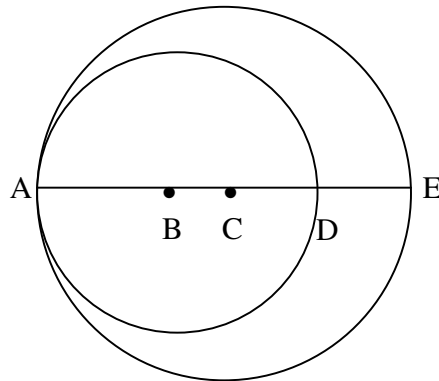
Q1:

A wire that weighs 24 kilograms is cut into two pieces so that one of the pieces weighs 16 kilograms and is 34 meters long. If the weight of each piece is proportional to its length, how many meters long is the other piece of wire?

FF. 11
GG.13
HH.17
II. 20

Answer:

Q2:



In the figure, points A, B, C, D, and E lie on a line. A is on both circles, B is the center of the smaller circle, C is the center of the larger circle, D is on the smaller circle, and E is on the larger circle. What is the area of the region inside the larger circle and outside the smaller circle?

- (1) $AB = 3$ and $BC = 2$
(2) $CD = 1$ and $DE = 4$

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
D. **EACH** statement **ALONE** is sufficient.
E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q3:

A certain company assigns employees to offices in such a way that some of the offices can be empty and more than one employee can be assigned to an office. In how many ways can the company assign 3 employees to 2 different offices?

- K. 5
L. 6
M. 7
N. 8
O. 9

Answer:

Q4:

If S is the sum of the reciprocals of the consecutive integers from 91 to 100, inclusive, which of the following is less than S ?

- I. $\frac{1}{8}$
- II. $\frac{1}{9}$
- III. $\frac{1}{10}$

- A. None
- B. I only
- C. III only
- D. II and III only
- E. I, II, and III

Answer:

Q5:

If $vmt \neq 0$, is $v^2m^3t^{-4} > 0$?

- (1) $m > v^2$
- (2) $m > t^{-4}$

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
- D. **EACH** statement **ALONE** is sufficient.
- E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q6:

If a code word is defined to be a sequence of different letters chosen from the 10 letters $A, B, C, D, E, F, G, H, I$, and J , what is the ratio of the number of 5-letter code words to the number of 4-letter code words?

- K. 5 to 4
- L. 3 to 2
- M. 2 to 1
- N. 5 to 1
- O. 6 to 1

Answer:

Q7:

If y is the smallest positive integer such that 3,150 multiplied by y is the square of an integer, then y must be

- A. 2
- B. 5
- C. 6
- D. 7
- E. 14

Answer:

Q8:

An equilateral triangle that has an area of $9\sqrt{3}$ is inscribed in a circle. What is the area of the circle?

- A. 6π
- B. 9π
- C. 12π
- D. $9\pi\sqrt{3}$
- E. $18\pi\sqrt{3}$

Answer:

Q9:

If x and z are integers, is at least one of them even?

- (1) $x + z$ is odd.
- (2) $x - z$ is odd.

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
- D. **EACH** statement **ALONE** is sufficient.
- E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q10:

A certain quantity is measured on two different scales, the R -scale and the S -scale, that are related linearly. Measurements on the R -scale of 6 and 24 correspond to measurements on the S -scale of 30 and 60, respectively. What measurement on the R -scale corresponds to a measurement of 100 on the S -scale?

- A. 20
- B. 36
- C. 48
- D. 60

Answer:

Q11:

The total cost of an office dinner was shared equally by k of the n employees who attended the dinner. What was the total cost of the dinner?

- (1) Each of the k employees who shared the cost of the dinner paid \$19.
- (2) If the total cost of the dinner had been shared equally by $k + 1$ of the n employees who attended the dinner, each of the $k + 1$ employees would have paid \$18.

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
- D. **EACH** statement **ALONE** is sufficient.
- E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q12:

A certain liquid leaks out of a container at the rate of k liters for every x hours. If the liquid costs \$6 per liter, what is the cost, in dollars, of the amount of the liquid that will leak out in y hours?

- A. $\frac{ky}{6x}$
- B. $\frac{6x}{ky}$
- C. $\frac{6k}{xy}$
- D. $\frac{6ky}{x}$
- E. $\frac{6xy}{k}$

Answer:

Q13:

Which of the following is equal to $\frac{2^{12} - 2^6}{2^6 - 2^3}$?

- A. $2^6 + 2^3$
- B. $2^6 - 2^3$
- C. 2^9
- D. 2^3

E. 2

Answer:

Q14:

A company has assigned a distinct 3-digit code number to each of its 330 employees. Each code number was formed from the digits

2, 3, 4, 5, 6, 7, 8, 9

and no digit appears more than once in any one code number. How many unassigned code numbers are there?

- A. 6
- B. 58
- C. 174
- D. 182
- E. 399

Answer:

Q15:

If $s^4v^3x^7 < 0$, is $svx < 0$?

- (1) $v < 0$
- (2) $x > 0$

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
- D. **EACH** statement **ALONE** is sufficient.
- E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q16:

Is $|v - x| < 8$?

- (1) v and x are integers.
- (2) $|v| = 4$ and $|x| = 6$

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
- D. **EACH** statement **ALONE** is sufficient.
- E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q17:

A certain list consists of 21 different numbers. If n is in the list and n is 4 times the average (arithmetic mean) of the other 20 numbers in the list, then n is what fraction of the sum of the 21 numbers in the list?

- A. $\frac{1}{20}$
- B. $\frac{1}{6}$
- C. $\frac{1}{5}$
- D. $\frac{4}{21}$
- E. $\frac{5}{21}$

Answer:

Q18:

If $wz < 2$, is $z < 1$?

- (1) $w > 2$
- (2) $z < 2$

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
- D. **EACH** statement **ALONE** is sufficient.
- E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q19:

In a certain region, the number of children who have been vaccinated against rubella is twice the number who have been vaccinated against mumps. The number who have been vaccinated against both is twice the number who have been vaccinated only against mumps. If 5,000 have been vaccinated against both, how many have been vaccinated only against rubella?

- A. 2,500
- B. 7,500
- C. 10,000
- D. 15,000
- E. 17,500

Answer:

Q20:

In the sequence 1, 2, 4, 8, 16, 32, ..., each term after the first is twice the previous term. What is the sum of the 16th, 17th, and 18th terms in the sequence?

- F. 2^{18}
- G. $3(2^{17})$
- H. $7(2^{16})$
- I. $3(2^{16})$
- J. $7(2^{15})$

Answer:

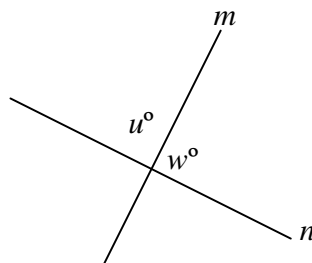
Q21:

At a garage sale, all of the prices of the items sold were different. If the price of a radio sold at the garage sale was both the 15th highest price and the 20th lowest price among the prices of the items sold, how many items were sold at the garage sale?

- F. 33
- G. 34
- H. 35
- I. 36
- J. 37

Answer:

Q22:



Lines m and n intersect, as shown in the figure above. What is the value of $u - w$?

- (1) $u = 90$
- (2) Lines m and n are perpendicular.

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
- D. **EACH** statement **ALONE** is sufficient.
- E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q23:

If the volume of a small container is 14,520 cubic millimeters, what is the volume of the container in cubic centimeters? (1 millimeter = 0.1 centimeter)

- A. 0.1452
- B. 1.452
- C. 14.52
- D. 145.2
- E. 1,452

Answer:

Q24:

From Leland's gross pay of p dollars last week, t percent was deducted for taxes and then s dollars was deducted for savings. What amount of Leland's gross pay last week remained after these two deductions?

- (1) $p - s = 244$
- (2) $pt = 7,552$

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
- D. **EACH** statement **ALONE** is sufficient.
- E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q25:

If the sequence $x_1, x_2, x_3, \dots, x_n, \dots$ is such that $x_1 = 3$ and $x_{n+1} = 2x_n - 1$ for $n \geq 1$, then $x_{20} - x_{19} =$

- F. 2^{19}
- G. 2^{20}
- H. 2^{21}
- I. $2^{20} - 1$
- J. $2^{21} - 1$

Answer:

Q26:

What is the greatest common factor of the positive integers j and k ?

- (1) $k = j + 1$
- (2) jk is divisible by 5.

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.

D. **EACH** statement **ALONE** is sufficient.

E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q27:

Is $|x| + |x - 1| = 1$?

(1) $x \geq 0$

(2) $x \leq 1$

A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.

B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.

C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.

D. **EACH** statement **ALONE** is sufficient.

E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q28:

In 1994, Kenneth's annual salary was 30 percent higher than it was in 1993. In 1995, Kenneth's annual salary was reduced to 104 percent of his 1993 annual salary.

Kenneth's 1995 annual salary was what percent less than his 1994 annual salary?

A. 16%

B. 20%

C. 24%

D. 26%

E. 28%

Answer:

Q29:

For any integer k greater than 1, the symbol k^* denotes the product of all the fractions of the form $\frac{1}{t}$, where t is an integer between 1 and k , inclusive. What is the value of $\frac{5^*}{4^*}$?

K. 5

L. $\frac{5}{4}$

M. $\frac{4}{5}$

N. $\frac{1}{4}$

O. $\frac{1}{5}$

Answer:

Q30:

If all of the employees of Company *K* who worked there last January are still there, how many employees does Company *K* have now?

- (1) Last January the ratio of the number of male employees to the number of female employees was 2 to 3.
- (2) Since last January, Company *K* has employed 400 new male employees and no new female employees, raising the ratio of the number of male employees to the number of female employees to 3 to 4.

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
- D. **EACH** statement **ALONE** is sufficient.
- E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q31:

In the *xy*-plane, the vertices of a triangle have coordinates (0, 0), (3, 3), and (7, 0). What is the perimeter of the triangle?

- A. 13
- B. $\sqrt{34}$
- C. $\sqrt{43}$
- D. $7 + 6\sqrt{2}$
- E. $12 + 3\sqrt{2}$

Answer:

Q32:

If n is a positive integer, what is the value of the hundreds digit of 30^n ?

- (1) $30^n > 1,000$
- (2) n is a multiple of 3.

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
- D. **EACH** statement **ALONE** is sufficient.
- E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q33:

A store's selling price of \$2,240 for a certain computer would yield a profit of 40 percent of the store's cost for the computer. What selling price would yield a profit of 50 percent of the computer's cost?

- A. \$2,400
- B. \$2,464
- C. \$2,650
- D. \$2,732
- E. \$2,800

Answer:

Q34:

What is the value of the integer n ?

- (1) $n(n + 2) = 15$
- (2) $(n + 2)^n = 125$

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
- D. **EACH** statement **ALONE** is sufficient.
- E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q35:

On Monday a store had a sale on bottles of juice S and juice T . If $\frac{1}{2}$ the total number of bottles of juice S in stock were sold on Monday, for which juice, S or T , were more of the bottles sold that day?

- (1) Two-thirds of the total number of bottles of juice T in stock were sold on Monday.
- (2) At the beginning of the sale, there was a total of 90 bottles of juice S and 60 bottles of juice T in stock.

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
- D. **EACH** statement **ALONE** is sufficient.
- E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q36:

The age of the Earth is approximately 1.3×10^{17} seconds, and one year is approximately 3.2×10^7 seconds. Which of the following is closest to the age of the Earth in years?

- F. 2.5×10^9
- G. 4.1×10^9
- H. 1.9×10^{10}
- I. 2.5×10^{11}
- J. 4.1×10^{11}

Answer:

Q37:

If $x < 0$ and $0 < y < 1$, which of the following has the greatest value?

- F. x^2
- G. $(xy)^2$
- H. $(\frac{x}{y})^2$
- I. $\frac{x^2}{y}$
- J. x^2y

Answer:

PART II

Q1:

For the last five years the Dutch economy has grown faster than Britain, France, or Germany, with the unemployment rate having remained well below that of the other three countries.

- OO. Britain, France, or Germany, with the unemployment rate having remained
- PP. have those of Britain, France, or Germany, and the unemployment rate remaining
- QQ. have Britain, France, and Germany, and the unemployment rate has remained
- RR. the economy of Britain, France, and Germany, with the unemployment rate that has remained
- SS. the economies of Britain, France, and Germany, and the unemployment rate has remained

Answer:

Q2:

The average hourly wage of television assemblers in Vernland has long been significantly lower than that in neighboring Borodia. Since Borodia dropped all tariffs on Vernlandian

televisions three years ago, the number of televisions sold annually in Borodia has not changed. However, recent statistics show a drop in the number of television assemblers in Borodia. Therefore, updated trade statistics will probably indicate that the number of televisions Borodia imports annually from Vernland has increased.

Which of the following is an assumption on which the argument depends?

- F. The number of television assemblers in Vernland has increased by at least as much as the number of television assemblers in Borodia has decreased.
- G. Televisions assembled in Vernland have features that televisions assembled in Borodia do not have.
- H. The average number of hours it takes a Borodian television assembler to assemble a television has not decreased significantly during the past three years.
- I. The number of televisions assembled annually in Vernland has increased significantly during the past three years.
- J. The difference between the hourly wage of television assemblers in Vernland and the hourly wage of television assemblers in Borodia is likely to decrease in the next few years.

Answer:

Q3:

Unlike human runners, who broke the four-minute mile in 1954 and they consistently recorded faster times ever since, horses in classic races such as the Kentucky Derby have had winning times with little improvement: Secretariat's world-record-breaking Derby time of 1:59 2/5, for example, was set in 1973 and remained unsurpassed more than a quarter of a century later.

- A. they consistently recorded faster times ever since, horses in classic races such as the Kentucky Derby have had winning times with little improvement
- B. they have consistently recorded faster times ever since, those of horses in classic races such as the Kentucky Derby have shown little improvement in winning times
- C. have consistently recorded faster times ever since, horses in classic races such as the Kentucky Derby have shown little improvement in winning times
- D. have consistently recorded faster times ever since, in those of classic races such as the Kentucky Derby, horses have had winning times with little improvement
- E. consistently recorded faster times ever since, those of horses in classic races such as the Kentucky Derby have shown little improvement in winning times

Answer:

Q4:

Even though more money was removed out of stock funds in July as in any month since October 1987, sales of fund shares in July were not as low as an industry trade group had previously estimated.

- P. as in any month since October 1987, sales of fund shares in July were not as low as
- Q. as had been in any other month since October 1987, sales of fund shares in July were not as low as what
- R. than there was in any other month since October 1987, sales of fund shares in July were not as low as that which
- S. than in any month since October 1987, sales of fund shares in July were not as low as
- T. than in any other month since October 1987, sales of fund shares in July were not as low as what

Answer:

Q5 to Q7:

- According to a theory advanced by researcher Paul Martin, the wave of species extinctions that occurred in North America about 11,000 years ago, at the end of the Pleistocene era, can be directly attributed to the arrival of humans, i.e., the Paleoindians, who were ancestors of modern Native Americans. However, anthropologist Shepard Krech points out that large animal species vanished even in areas where there is no evidence to demonstrate that Paleoindians hunted them. Nor were extinctions confined to large animals: small animals, plants, and insects disappeared, presumably not all through human consumption. Krech also contradicts Martin's exclusion of climatic change as an explanation by asserting that widespread climatic change did indeed occur at the end of the Pleistocene. Still, Krech attributes secondary if not primary responsibility for the extinctions to the Paleoindians, arguing that humans have produced local extinctions elsewhere. But, according to historian Richard White, even the attribution of secondary responsibility may not be supported by the evidence. White observes that Martin's thesis depends on coinciding dates for the arrival of humans and the decline of large animal species, and

- (35) Krech, though aware that the dates are controversial, does not challenge them; yet recent archaeological discoveries are providing evidence that the date of human arrival was much earlier than 11,000 years ago.
-

Q5:

Which of the following is true about Martin's theory, as that theory is described in the passage?

- F. It assumes that the Paleoindians were primarily dependent on hunting for survival.
- G. It denies that the Pleistocene species extinctions were caused by climate change.
- H. It uses as evidence the fact that humans have produced local extinctions in other situations.
- I. It attempts to address the controversy over the date of human arrival in North America.
- J. It admits the possibility that factors other than the arrival of humans played a role in the Pleistocene extinctions.

Answer:

Q6:

In the last sentence of the passage, the author refers to "recent archaeological discoveries" (lines 36-37) most probably in order to

- F. refute White's suggestion that neither Martin nor Krech adequately account for Paleoindians' contributions to the Pleistocene extinctions
- G. cast doubt on the possibility that a more definitive theory regarding the causes of the Pleistocene extinctions may be forthcoming
- H. suggest that Martin's, Krech's, and White's theories regarding the Pleistocene extinctions are all open to question
- I. call attention to the most controversial aspect of all the current theories regarding the Pleistocene extinctions
- J. provide support for White's questioning of both Martin's and Krech's positions regarding the role of Paleoindians in the Pleistocene extinctions

Answer:

Q7:

Which of the following, if true, would most weaken Krech's objections to Martin's theory?

- F. Further studies showing that the climatic change that occurred at the end of the Pleistocene era was even more severe and widespread than was previously believed
- G. New discoveries indicating that Paleoindians made use of the small animals, plants, and insects that became extinct

- H. Additional evidence indicating that widespread climatic change occurred not only at the end of the Pleistocene era but also in previous and subsequent eras
- I. Researchers' discoveries that many more species became extinct in North America at the end of the Pleistocene era than was previously believed
- J. New discoveries establishing that both the arrival of humans in North America and the wave of Pleistocene extinctions took place much earlier than 11,000 years ago

Answer:

Q8:

Community activist: If Morganville wants to keep its central shopping district healthy, it should prevent the opening of a huge SaveAll discount department store on the outskirts of Morganville. Records from other small towns show that whenever SaveAll has opened a store outside the central shopping district of a small town, within five years the town has experienced the bankruptcies of more than a quarter of the stores in the shopping district.

The answer to which of the following would be most useful for evaluating the community activist's reasoning?

- A. Have community activists in other towns successfully campaigned against the opening of a SaveAll store on the outskirts of their towns?
- B. Do a large percentage of the residents of Morganville currently do almost all of their shopping at stores in Morganville?
- C. In towns with healthy central shopping districts, what proportion of the stores in those districts suffer bankruptcy during a typical five-year period?
- D. What proportion of the employees at the SaveAll store on the outskirts of Morganville will be drawn from Morganville?
- E. Do newly opened SaveAll stores ever lose money during their first five years of operation?

Answer:

Q9:

Lightbox, Inc., owns almost all of the movie theaters in Washington County and has announced plans to double the number of movie screens it has in the county within five years. Yet attendance at Lightbox's theaters is only just large enough for profitability now and the county's population is not expected to increase over the next ten years. Clearly, therefore, if there is indeed no increase in population, Lightbox's new screens are unlikely to prove profitable.

Which of the following, if true about Washington County, most seriously weakens the argument?

- F. Though little change in the size of the population is expected, a pronounced shift toward a younger, more affluent, and more entertainment-oriented population is expected to occur.

- G. The sales of snacks and drinks in its movie theaters account for more of Lightbox's profits than ticket sales do.
- H. In selecting the mix of movies shown at its theaters, Lightbox's policy is to avoid those that appeal to only a small segment of the moviegoing population.
- I. Spending on video purchases, as well as spending on video rentals, is currently no longer increasing.
- J. There are no population centers in the county that are not already served by at least one of the movie theaters that Lightbox owns and operates.

Answer:

Q10:

Marconi's conception of the radio was as a substitute for the telephone, a tool for private conversation; instead, it is precisely the opposite, a tool for communicating with a large, public audience.

- A. Marconi's conception of the radio was as a substitute for the telephone, a tool for private conversation; instead, it is
- B. Marconi conceived of the radio as a substitute for the telephone, a tool for private conversation, but which is
- C. Marconi conceived of the radio as a tool for private conversation that could substitute for the telephone; instead, it has become
- D. Marconi conceived of the radio to be a tool for private conversation, a substitute for the telephone, which has become
- E. Marconi conceived of the radio to be a substitute for the telephone, a tool for private conversation, other than what it is,

Answer:

Q11:

Retailers reported moderate gains in their November sales, as much because of their sales of a year earlier being so bad as that shoppers were getting a head start on buying their holiday gifts.

- A. of their sales of a year earlier being so bad as that
- B. of their sales a year earlier having been as bad as because
- C. of their sales a year earlier being as bad as because
- D. their sales a year earlier had been so bad as because
- E. their sales of a year earlier were as bad as that

Answer:

Q12:

Which of the following most logically completes the argument?

The irradiation of food kills bacteria and thus retards spoilage. However, it also lowers the nutritional value of many foods. For example, irradiation destroys a significant percentage of whatever vitamin B1 a food may contain. Proponents of irradiation point out that irradiation is no worse in this respect than cooking. However, this fact is either beside the point, since much irradiated food is eaten raw, or else misleading, since _____.

- F. many of the proponents of irradiation are food distributors who gain from food's having a longer shelf life
- G. it is clear that killing bacteria that may be present on food is not the only effect that irradiation has
- H. cooking is usually the final step in preparing food for consumption, whereas irradiation serves to ensure a longer shelf life for perishable foods
- I. certain kinds of cooking are, in fact, even more destructive of vitamin B1 than carefully controlled irradiation is
- J. for food that is both irradiated and cooked, the reduction of vitamin B1 associated with either process individually is compounded

Answer:

Q13:

Historian: In the Drindian Empire, censuses were conducted annually to determine the population of each village. **Village census records for the last half of the 1600's are remarkably complete.** This very completeness makes one point stand out; in five different years, villages overwhelmingly reported significant population declines. Tellingly, each of those five years immediately followed an increase in a certain Drindian tax. This tax, which was assessed on villages, was computed by the central government using the annual census figures. Obviously, whenever the tax went up, villages had an especially powerful economic incentive to minimize the number of people they recorded; and concealing the size of a village's population from government census takers would have been easy. Therefore, it is reasonable to think that **the reported declines did not happen.**

In the historian's argument, the two portions in **boldface** play which of the following roles?

- K. The first supplies a context for the historian's argument; the second acknowledges a consideration that has been used to argue against the position the historian seeks to establish.
- L. The first presents evidence to support the position that the historian seeks to establish; the second acknowledges a consideration that has been used to argue against that position.
- M. The first provides a context for certain evidence that supports the position that the historian seeks to establish; the second is that position.
- N. The first is a position for which the historian argues; the second is an assumption that serves as the basis of that argument.

- O. The first is an assumption that the historian explicitly makes in arguing for a certain position; the second acknowledges a consideration that calls that assumption into question.

Answer:

Q14:

The single-family house constructed by the Yana, a Native American people who lived in what is now northern California, was conical in shape, its framework of poles overlaid with slabs of bark, either cedar or pine, and banked with dirt to a height of three to four feet.

- A. banked with dirt to a height of
- B. banked with dirt as high as that of
- C. banked them with dirt to a height of
- D. was banked with dirt as high as
- E. was banked with dirt as high as that of

Answer:

Q15 to Q18:

- Behavior science courses should be gaining prominence in business school curricula. Recent theoretical work convincingly shows why behavioral factors such as organizational culture and employee relations are among the few remaining sources of sustainable competitive advantage in modern organizations. Furthermore, empirical evidence demonstrates clear linkages between human resource (HR) practices based in the behavioral sciences and various aspects of a firm's financial success. Additionally, some of the world's most successful organizations have made unique HR practices a core element of their overall business strategies.
- Yet the behavior sciences are struggling for credibility in many business schools. Surveys show that business students often regard behavioral studies as peripheral to the mainstream business curriculum. This perception can be explained by the fact that business students, hoping to increase their attractiveness to
- Line*
(5)
(10)
(15)
(20)
(25)

- prospective employers, are highly sensitive to business norms and practices, and current business practices have generally been moving away from an emphasis on understanding human behavior and toward more mechanistic organizational models. Furthermore, the status of HR professionals within organizations tends to be lower than that of other executives.
- Students' perceptions would matter less if business schools were not increasingly dependent on external funding—from legislatures, businesses, and private foundations—for survival. Concerned with their institutions' ability to attract funding, administrators are increasingly targeting low-enrollment courses and degree programs for elimination.

Q15:

The primary purpose of the passage is to

- F. propose a particular change to business school curricula
- G. characterize students' perceptions of business school curricula
- H. predict the consequences of a particular change in business school curricula
- I. challenge one explanation for the failure to adopt a particular change in business school curricula
- J. identify factors that have affected the prestige of a particular field in business school curricula

Answer:

Q16:

The author of the passage mentions "empirical evidence" (line 10) primarily in order to

- F. question the value of certain commonly used HR practices
- G. illustrate a point about the methodology behind recent theoretical work in the behavioral sciences
- H. support a claim about the importance that business schools should place on courses in the behavioral sciences
- I. draw a distinction between two different factors that affect the financial success of a business
- J. explain how the behavioral sciences have shaped HR practices in some business organizations

Answer:

Q17:

The author of the passage suggests which of the following about HR professionals in business organizations?

- F. They are generally skeptical about the value of mechanistic organizational models.
- G. Their work increasingly relies on an understanding of human behavior.
- H. Their work generally has little effect on the financial performance of those organizations.
- I. Their status relative to other business executives affects the attitude of business school students toward the behavioral sciences.
- J. Their practices are unaffected by the relative prominence of the behavioral sciences within business schools.

Answer:

Q18:

The author of the passage considers each of the following to be a factor that has contributed to the prevailing attitude in business schools toward the behavioral sciences EXCEPT

- P. business students' sensitivity to current business norms and practices
- Q. the relative status of HR professionals among business executives
- R. business schools' reliance on legislatures, businesses, and private foundations for funding
- S. businesses' tendency to value mechanistic organizational models over an understanding of human behavior
- T. theoretical work on the relationship between behavioral factors and a firm's financial performance

Answer:

Q19:

In Hungary, as in much of Eastern Europe, an overwhelming proportion of women work, many of which are in middle management and light industry.

- A. as in much of Eastern Europe, an overwhelming proportion of women work, many of which are in
- B. as with much of Eastern Europe, an overwhelming proportion of women works, many in
- C. as in much of Eastern Europe, an overwhelming proportion of women work, many of them in
- D. like much of Eastern Europe, an overwhelming proportion of women works, and many are
- E. like much of Eastern Europe, an overwhelming proportion of women work, many are in

Answer:

Q20:

Nitrogen dioxide is a pollutant emitted by automobiles. Catalytic converters, devices designed to reduce nitrogen dioxide emissions, have been required in all new cars in Donia since 1993, and as a result, nitrogen dioxide emissions have been significantly reduced throughout most of the country. Yet although the proportion of new cars in Donia's capital city has always been comparatively high, nitrogen dioxide emissions there have showed only an insignificant decline since 1993.

Which of the following, if true, most helps to explain the insignificant decline in nitrogen dioxide emissions in Donia's capital city?

- F. More of the cars in Donia's capital city were made before 1993 than after 1993.
- G. The number of new cars sold per year in Donia has declined slightly since 1993.
- H. Pollutants other than nitrogen dioxide that are emitted by automobiles have also been significantly reduced in Donia since 1993.
- I. Many Donians who own cars made before 1993 have had catalytic converters installed in their cars.
- J. Most car trips in Donia's capital city are too short for the catalytic converter to reach its effective working temperature.

Answer:

Q21:

Healthy lungs produce a natural antibiotic that protects them from infection by routinely killing harmful bacteria on airway surfaces. People with cystic fibrosis, however, are unable to fight off such bacteria, even though their lungs produce normal amounts of the antibiotic. The fluid on airway surfaces in the lungs of people with cystic fibrosis has an abnormally high salt concentration; accordingly, scientists hypothesize that the high salt concentration is what makes the antibiotic ineffective.

Which of the following, if true, most strongly supports the scientists' hypothesis?

- F. When the salt concentration of the fluid on the airway surfaces of healthy people is raised artificially, the salt concentration soon returns to normal.
- G. A sample of the antibiotic was capable of killing bacteria in an environment with an unusually low concentration of salt.
- H. When lung tissue from people with cystic fibrosis is maintained in a solution with a normal salt concentration, the tissue can resist bacteria.
- I. Many lung infections can be treated by applying synthetic antibiotics to the airway surfaces.
- J. High salt concentrations have an antibiotic effect in many circumstances.

Answer:

Q22 to Q25:

Most pre-1990 literature on businesses' use of information technology

(IT)—defined as any form of computer-based information system—focused on spectacular IT successes and reflected a general optimism concerning IT’s potential as a resource for creating competitive advantage. But toward the end of the 1980’s, some economists spoke of a “productivity paradox”: despite huge IT investments, most notably in the service sectors, productivity stagnated. In the retail industry, for example, in which IT had been widely adopted during the 1980’s, productivity (average output per hour) rose at an average annual rate of 1.1 percent between 1973 and 1989, compared with 2.4 percent in the preceding 25-year period. Proponents of IT argued that it takes both time and a critical mass of investment for IT to yield benefits, and some suggested that growth figures for the 1990’s proved these benefits were finally being realized. They also argued that measures of productivity ignore what would have happened without investments in IT—productivity gains might have been even lower. There were even claims that IT had improved the performance of the service sector significantly, although macroeconomic measures of productivity did not reflect the improvement.

But some observers questioned why, if IT had conferred economic value, it did not produce direct competitive advantages for individual firms. Resource-based theory offers an answer, asserting that, in general, firms gain competitive advantages by accumulating resources that are economically valuable, relatively scarce, and not easily replicated. According to a recent study of retail firms, which confirmed that IT has become pervasive and relatively easy to acquire, IT by itself appeared to have conferred little advantage. In fact, though little evidence of any direct effect was found, the frequent negative correlations between IT

- and performance suggested that IT had
- (50) probably weakened some firms' competitive positions. However, firms' human resources, in and of themselves, did explain improved performance, and some firms gained IT-related advantages by merging IT with complementary resources, particularly human resources.
- (55) The findings support the notion, founded in resource-based theory, that competitive advantages do not arise from easily replicated resources, no matter how impressive or economically valuable they may be, but from complex, intangible resources.
- (60)

Q22:

The passage is primarily concerned with

- P. describing a resource and indicating various methods used to study it
- Q. presenting a theory and offering an opposing point of view
- R. providing an explanation for unexpected findings
- S. demonstrating why a particular theory is unfounded
- T. resolving a disagreement regarding the uses of a technology

Answer:

Q23:

The passage suggests that proponents of resource-based theory would be likely to explain IT's inability to produce direct competitive advantages for individual firms by pointing out that

- JJ. IT is not a resource that is difficult to obtain
- KK. IT is not an economically valuable resource
- LL. IT is a complex, intangible resource
- MM. economic progress has resulted from IT only in the service sector
- NN. changes brought about by IT cannot be detected by macroeconomic measures

Answer:

Q24:

The author of the passage discusses productivity in the retail industry in the first paragraph primarily in order to

- EE. suggest a way in which IT can be used to create a competitive advantage
- FF. provide an illustration of the "productivity paradox"
- GG. emphasize the practical value of the introduction of IT

- HH. cite an industry in which productivity did not stagnate during the 1980's
II. counter the argument that IT could potentially create competitive advantage

Answer:

Q25:

According to the passage, most pre-1990 literature on businesses' use of IT included which of the following?

- JJ. Recommendations regarding effective ways to use IT to gain competitive advantage
KK. Explanations of the advantages and disadvantages of adopting IT
LL. Information about ways in which IT combined with human resources could be used to increase competitive advantage
MM. A warning regarding the negative effect on competitive advantage that would occur if IT were not adopted
NN. A belief in the likelihood of increased competitive advantage for firms using IT

Answer:

Q26:

On Earth, among the surest indications of sunspot cycles are believed to be the rate that trees grow, as seen in the rings visible in the cross sections of their trunks.

- A. On Earth, among the surest indications of sunspot cycles are believed to be the rate that trees grow
B. On Earth, among the surest indications of sunspot cycles are, it is believed, the rate of tree growth
C. On Earth, the rate at which trees grow is believed to be among the surest indications of sunspot cycles
D. Among the surest indications on Earth of sunspot cycles, believed to be the tree growth rate
E. Among the surest indications on Earth of sunspot cycles is believed to be the rate at which trees grow

Answer:

Q27:

Mayor: Migrating shorebirds stop at our beach just to feed on horseshoe-crab eggs, a phenomenon that attracts tourists. To bring more tourists, the town council plans to undertake a beach reclamation project to double the area available to crabs for nesting.

Birdwatcher: Without a high density of crabs on a beach, migrating shorebirds will go hungry because shorebirds only eat eggs that a crab happens to uncover when it is digging its own nest.

Which of the following, if true, would provide the mayor with the strongest counter to the birdwatcher's objection?

- U. Every year a certain percentage of crabs are caught by fishermen as bait for eel traps.
- V. Horseshoe crabs are so prolific that given favorable circumstances their numbers increase rapidly.
- W. On average, tourists who come to the town in order to watch birds spend more money there than tourists who come for other purposes.
- X. The additional land made available by the reclamation project will give migrating shorebirds more space.
- Y. Some of the migrating shorebirds make only one stop during their migration from South America to Canada.

Answer:

Q28:

In an effort to reduce the number of fires started by cigarettes, a major tobacco company is test-marketing a cigarette in which thin layers of extra paper are used to decrease the amount of oxygen entering the cigarette, thereby slowing the rate at which it burns and lowering the heat it generates.

- A. in which thin layers of extra paper are used to decrease the amount of oxygen entering the cigarette, thereby slowing
- B. in which they use thin layers of extra paper in decreasing the amount of oxygen entering the cigarette, which slows
- C. that uses thin layers of extra paper to decrease the amount of oxygen when it enters the cigarette, thereby slowing
- D. for which thin layers of extra paper are used to decrease the amount of oxygen that enters the cigarette, and thereby slowing
- E. using thin layers of extra paper in decreasing the amount of oxygen entering the cigarette, which slows

Answer:

Q29:

Antarctica receives more solar radiation than does any other place on Earth, yet the temperatures are so cold and the ice cap is reflective, so that little polar ice melts during the summer; otherwise, the water levels of the oceans would rise 250 feet and engulf most of the world's great cities.

- F. is reflective, so that little polar ice melts during the summer; otherwise,
- G. is so reflective that little of the polar ice melts during the summer; were it to do so,
- H. so reflective that little polar ice melts during the summer, or else
- I. reflective, so that little of the polar ice melts during the summer, or
- J. reflects so that little of the polar ice melts during the summer; if it did

Answer:

Q30:

Socially and environmentally responsible investing is on the rise: last year in the United States, over \$2 trillion was invested in funds that screen companies according to a variety of criteria such as adherence to labor standards, protection of the environment, and observance of human rights.

- A. according to a variety of criteria such as
- B. according to a variety of such criteria, as by
- C. according to such a variety of criteria as by
- D. in accordance with such a variety of criteria as
- E. in accordance with a variety of criteria, such as by

Answer:

Q31:

People with a certain eye disorder are virtually unable to see in moderately bright light, which seems to them unbearably intense, since the cells of their retinas are overwhelmed by moderately bright light. These people do, however, show normal sensitivity to most components of dim light. Their retinal cells are also not excessively sensitive to red components of moderately bright light.

The information above best supports which of the following hypotheses about people with the disorder described, if they have no other serious visual problems?

- A. In all moderately dim light in which people without the disorder can read large print, people with the disorder cannot read such print.
- B. In an otherwise darkened concert hall, these people will see a dimly illuminated red exit sign more clearly than small dim white lights that mark the aisles.
- C. These people typically see more acutely at night and in dim light than do most people who do not have the disorder.
- D. Eyeglasses that are transparent to red components of light but filter out other components of light help these people see in moderately bright light.
- E. These people perceive colors other than red in the same way as do most people who do not have the disorder.

Answer:

Q32:

Since 1975 so many people have been moving to Utah such that Mormons who were once 75 percent of the population are now only accounting for half of it.

- A. so many people have been moving to Utah such that Mormons who were once 75 percent of the population are now only accounting for half of it
- B. many people have been moving to Utah, so Mormons once 75 percent of the population are now accounting for only half
- C. that many people have been moving to Utah, such that the Mormons that were once 75 percent of the population are now accounting for only half of it
- D. many people have been moving to Utah such that the Mormons, who once represented 75 percent of the population, now only account for half

- E. so many people have been moving to Utah that the Mormons, who once represented 75 percent of the population, now account for only half

Answer:

Q33:

After more than four decades of research and development, a new type of jet engine is being tested that could eventually propel aircraft anywhere in the world within two hours or help boost cargoes into space at significantly lower costs than current methods permit.

- A. tested that could eventually propel aircraft anywhere in the world within two hours or help
- B. tested that could eventually have the capability of propelling aircraft anywhere in the world within two hours or to help
- C. tested, eventually able to propel aircraft anywhere in the world within two hours, or helping
- D. tested, and it eventually could propel aircraft anywhere in the world within two hours or helping
- E. tested, and it could eventually have the capability to propel aircraft anywhere in the world within two hours or help

Answer:

Q34:

Though subject to the same wild-animal control efforts that killed off almost all the wolves in North America over the past century, the coyote's amazing ability of adapting to the presence of humans has enabled it to expand its range into Alaska and Central America.

- A. coyote's amazing ability of adapting to the presence of humans has enabled it to expand its
- B. coyote, because of its amazing ability of adapting to the presence of humans, have been able to expand their
- C. coyote, because of its amazing ability to adapt to the presence of humans, has been able to expand its
- D. amazing ability of the coyote to adapt to the presence of humans have enabled it to expand the
- E. amazing ability of the coyote to adapt to the presence of humans has enabled it to expand the

Answer:

Q35 to Q37:

Recent feminist scholarship concerning the United States in the 1920's challenges earlier interpretations that assessed the twenties in terms of the unkept "promises" of the women's suffrage movement. This new scholar-

Line
(5)

- ship disputes the long-held view that because a women's voting bloc did not materialize after women gained the right to vote in 1920, suffrage failed to produce long-term political gains for women. These feminist scholars also challenge the old view that pronounced suffrage a failure for not delivering on the promise that the women's vote would bring about moral, corruption-free governance. Asked whether women's suffrage was a failure, these scholars cite the words of turn-of-the-century social reformer Jane Addams, "Why don't you ask if suffrage in general is failing?"

- In some ways, however, these scholars still present the 1920's as a period of decline. After suffrage, they argue, the feminist movement lost its cohesiveness, and gender consciousness waned. After the mid-1920's, few successes could be claimed by feminist reformers: little could be seen in the way of legislative victories.

- During this decade, however, there was intense activism aimed at achieving increased autonomy for women, broadening the spheres within which they lived their daily lives. Women's organizations worked to establish opportunities for women: they strove to secure for women the full entitlements of citizenship, including the right to hold office and the right to serve on juries.

Q35:

The passage is primarily concerned with

- U. providing evidence indicating that feminist reformers of the 1920's failed to reach some of their goals
- V. presenting scholarship that contrasts suffragist "promises" with the historical realities of the 1920's
- W. discussing recent scholarship concerning the achievements of women's suffrage during the 1920's and presenting an alternative view of those achievements

- X. outlining recent findings concerning events leading to suffrage for women in the 1920's and presenting a challenge to those findings
- Y. providing support for a traditional view of the success of feminist attempts to increase gender consciousness among women during the 1920's

Answer:

Q36:

It can be inferred that the author of the passage disagrees with the "new scholarship" mentioned in lines 6-7 regarding the

- OO. degree to which the "promises" of the suffrage movement remained unkept
- PP. degree to which suffrage for women improved the morality of governance
- QQ. degree to which the 1920's represented a period of decline for the feminist movement
- RR. degree of legislative success achieved by feminist reformers during the 1920's
- SS. accuracy of the view that a women's voting bloc did not materialize once suffrage was achieved

Answer:

Q37:

The purpose of the second paragraph (lines 23-31) of the passage is to

- OO. suggest a reason why suffragist "promises" were not kept
- PP. contrast suffragist "promises" with the reality of the 1920's
- QQ. deplore the lack of successful feminist reform in 1920's
- RR. explain a view held by feminist scholars
- SS. answer the question asked by Jane Addams

Answer:

Q38:

Unprecedented industrial growth in the country of Remo has created serious environmental problems because factories there lack adequate pollution-control systems. Remo is developing a clean growth plan that includes environmental regulations that will require the installation of such systems. Since no companies in Remo currently produce pollution-control systems, the plan, if implemented, will create significant opportunities for foreign exporters to market pollution-control systems.

Which of the following, if true, most seriously weakens the argument?

- A. The clean growth plan will provide tax incentives for local businesses to develop and manufacture pollution-control devices.
- B. Foreign exporters would provide factory-trained technicians to maintain the pollution-control systems sold to Remo.

- C. Industrial lobbyists sponsored by local businesses in Remo are trying to prevent the implementation of the government regulations.
- D. The regulations that Remo plans to implement are much less strict than those in neighboring nations.
- E. Pollution in Remo has caused serious health problems for workers, contributing to a significant increase in the number of workdays lost to illness.

Answer:

Q39:

When working with overseas clients, an understanding of cultural norms is at least as important as grasping the pivotal business issues for the global manager.

- A. When working with overseas clients, an understanding of cultural norms is at least as important as grasping the pivotal business issues for the global manager.
- B. When they work with overseas clients, understanding cultural norms is at least of equal importance to the global manager as grasping the pivotal business issues.
- C. For global managers working with overseas clients, understanding cultural norms is at least as important as grasping the pivotal business issues.
- D. For global managers working with overseas clients, an understanding of cultural norms is at least as important to them as that they grasp the pivotal business issues.
- E. Global managers working with overseas clients find an understanding of cultural norms to be equally important as grasping the pivotal business issues.

Answer:

Q40:

Scientists who studied the famous gold field known as Serra Pelada concluded that the rich lode was not produced by the accepted methods of ore formation but that swarms of microbes over millions of years concentrated the gold from jungle soils and rivers and rocks.

- A. not produced by the accepted methods of ore formation but that swarms of microbes over millions of years
- B. not produced by the accepted methods of ore formation but instead swarms of microbes over millions of years that
- C. not produced by the accepted methods of ore formation but swarms of microbes over millions of years that
- D. produced not by the accepted methods of ore formation but by swarms of microbes that over millions of years
- E. produced not by the accepted met
- F. hods of ore formation but that swarms of microbes over millions of years

Answer:

Q41:

Charcoal from a hearth site in Colorado, 2,000 miles south of Alaska, is known to be 11,200 years old. Researchers reasoned that, since glaciers prevented human migration

south from the Alaska-Siberia land bridge between 18,000 and 11,000 years ago, humans must have come to the Americas more than 18,000 years ago.

Which of the following pieces of new evidence would cast doubt on the conclusion drawn above?

- A. Using new radiocarbon dating techniques, it was determined that the charcoal from the Colorado site was at least 11,400 years old.
- B. Another campsite was found in New Mexico with remains dated at 16,000 years old.
- C. A computer simulation of glacial activity showed that it would already have been impossible for humans to travel south overland from Alaska 18,500 years ago.
- D. Using new radiocarbon dating techniques, it was proved that an ice-free corridor allowed passage south from the Alaska-Siberia land bridge at least 11,400 years ago.
- E. Studies of various other hunting-gathering populations showed convincingly that, once the glaciers allowed passage, humans could have migrated from Alaska to Colorado in about 20 years.

Answer:

SET EIGHT

PART I

Q1:

The population of City X is 50 percent of the population of City Y. The population of City X is what percent of the total population of City X and City Y?

JJ. 25%

KK. $33\frac{1}{3}\%$

LL. 40%

MM. 50%

NN. $66\frac{2}{3}\%$

Answer:

Q2:

Guy's net income equals his gross income minus his deductions. By what percent did Guy's net income change on January 1, 1989, when both his gross income and his deductions increased?

- (1) Guy's gross income increased by 4 percent on January 1, 1989.
- (2) Guy's deductions increased by 15 percent on January 1, 1989.

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
- D. **EACH** statement **ALONE** is sufficient.
- E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q3:

Each participant in a certain study was assigned a sequence of 3 different letters from the set $\{A, B, C, D, E, F, G, H\}$. If no sequence was assigned to more than one participant and if 36 of the possible sequences were not assigned, what was the number of participants in the study? (Note, for example, that the sequence A, B, C is different from the sequence C, B, A .)

- A. 20
- B. 92
- C. 300
- D. 372
- E. 476

Answer:

Q4:

Of the total amount that Jill spent on a shopping trip, excluding taxes, she spent 50 percent on clothing, 20 percent on food, and 30 percent on other items. If Jill paid a 4 percent tax on the clothing, no tax on the food, and an 8 percent tax on all other items, then the total tax that she paid was what percent of the total amount that she spent, excluding taxes?

- A. 2.8%
- B. 3.6%
- C. 4.4%
- D. 5.2%
- E. 6.0%

Answer:

Q5:

If x and y are positive, is $x^3 > y$?

- (1) $\sqrt{x} > y$
- (2) $x > y$

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
- D. **EACH** statement **ALONE** is sufficient.
- E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q6:

The infinite sequence $a_1, a_2, \dots, a_n, \dots$ is such that $a_1 = 2$, $a_2 = -3$, $a_3 = 5$, $a_4 = -1$, and $a_n = a_{n-4}$ for $n > 4$. What is the sum of the first 97 terms of the sequence?

- A. 72
- B. 74
- C. 75
- D. 78
- E. 80

Answer:

Q7:

For a certain race, 3 teams were allowed to enter 3 members each. A team earned $6 - n$ points whenever one of its members finished in n th place, where $1 \leq n \leq 5$. There were no ties, disqualifications, or withdrawals. If no team earned more than 6 points, what is the least possible score a team could have earned?

- A. 0
- B. 1
- C. 2
- D. 3
- E. 4

Answer:

Q8:

At a certain food stand, the price of each apple is ₦ 40 and the price of each orange is ₦ 60. Mary selects a total of 10 apples and oranges from the food stand, and the average (arithmetic mean) price of the 10 pieces of fruit is ₦ 56. How many oranges must Mary put back so that the average price of the pieces of fruit that she keeps is ₦ 52?

- A. 1

- B. 2
- C. 3
- D. 4
- E. 5

Answer:

Q9:

Professor Vasquez gave a quiz to two classes. Was the range of scores for the first class equal to the range of scores for the second class?

- (1) In each class, the number of students taking the quiz was 26, and the lowest score in each class was 70.
- (2) In each class, the average (arithmetic mean) score on the quiz was 85.

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
- D. **EACH** statement **ALONE** is sufficient.
- E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q10:

If x and y are positive integers, what is the value of x ?

- (1) $3^x 5^y = 1,125$
- (2) $y = 3$

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
- D. **EACH** statement **ALONE** is sufficient.
- E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q11:

If $|d - 9| = 2d$, then $d =$

- A. -9
- B. -3
- C. 1
- D. 3
- E. 9

Answer:

Q12:

There are 11 women and 9 men in a certain club. If the club is to select a committee of 2 women and 2 men, how many different such committees are possible?

- A. 120
- B. 720
- C. 1,060
- D. 1,520
- E. 1,980

Answer:

Q13:

Is the measure of one of the interior angles of quadrilateral ABCD equal to 60 degrees?

- (1) Two of the interior angles of ABCD are right angles.
- (2) The degree measure of angle ABC is twice the degree measure of angle BCD.

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
- D. **EACH** statement **ALONE** is sufficient.
- E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q14:

\$10,000 is deposited in a certain account that pays r percent annual interest compounded annually, the amount $D(t)$, in dollars, that the deposit will grow to in t years is given by $D(t) = 10,000 \{1 + (r/100)\}^t$. What amount will the deposit grow to in 3 years?

- (1) $D(t) = 11,000$
- (2) $r = 10$

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
- D. **EACH** statement **ALONE** is sufficient.
- E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q15:

If a and b are integers, is b even?

- (1) $3a + 4b$ is even.
- (2) $3a + 5b$ is even.

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.

C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.

D. **EACH** statement **ALONE** is sufficient.

E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q16:

The area of square S is equal to the area of rectangle R . What is the perimeter of square S ?

(1) The length of one of the sides of rectangle R is twice the length of a side of square S .

(2) The area of rectangle R is 36.

A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.

B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.

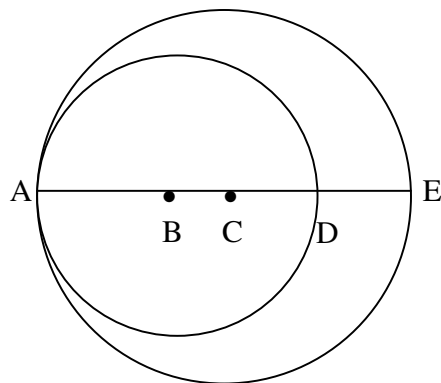
C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.

D. **EACH** statement **ALONE** is sufficient.

E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q17:



In the figure, points A, B, C, D, and E lie on a line. A is on both circles, B is the center of the smaller circle, C is the center of the larger circle, D is on the smaller circle, and E is on the larger circle. What is the area of the region inside the larger circle and outside the smaller circle?

- (1) $AB = 3$ and $BC = 2$
- (2) $CD = 1$ and $DE = 4$

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
- D. **EACH** statement **ALONE** is sufficient.
- E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

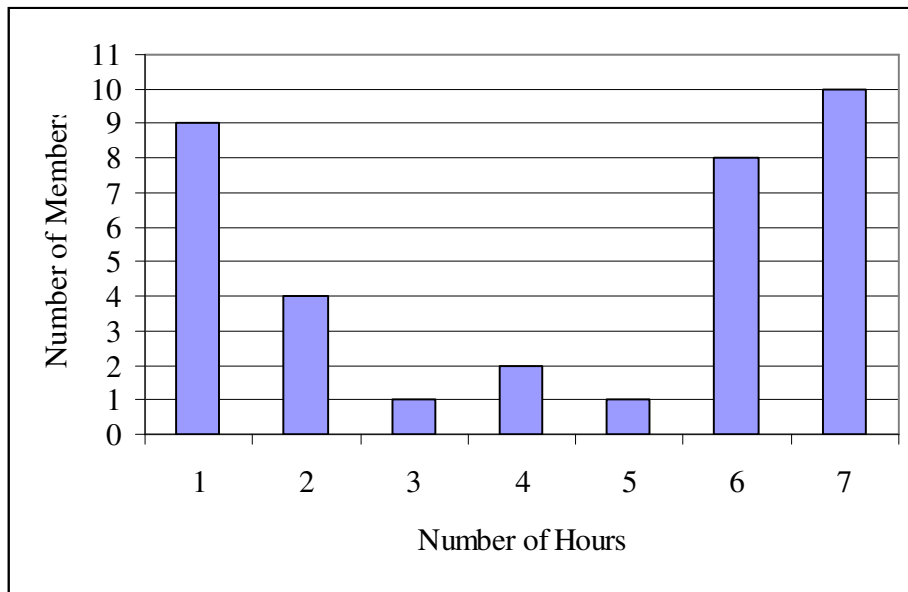
Q18:

A certain company that sells only cars and trucks reported that revenues from car sales in 1997 were down 11 percent from 1996 and revenues from truck sales in 1997 were up 7 percent from 1996. If total revenues from car sales and truck sales in 1997 were up 1 percent from 1996, what is the ratio of revenue from car sales in 1996 to revenue from truck sales in 1996?

- A. 1 : 2
- B. 4 : 5
- C. 1 : 1
- D. 3 : 2
- E. 5 : 3

Answer:

Q19:



Yesterday each of the 35 members of a certain task force spent some time working on project *P*. The graph shows the number of hours and the number of members who spent that number of hours working on project *P* yesterday. What was the median number of hours that the members of the task force spent working on project *P* yesterday?

- A. 2
- B. 3
- C. 4
- D. 5
- E. 6

Answer:

Q20:

A certain list consists of 21 different numbers. If n is in the list and n is 4 times the average (arithmetic mean) of the other 20 numbers in the list, then n is what fraction of the sum of the 21 numbers in the list?

- A. $\frac{1}{20}$
- B. $\frac{1}{6}$
- C. $\frac{1}{5}$
- D. $\frac{4}{21}$
- E. $\frac{5}{21}$

Answer:

Q21:

Three printing presses, R , S , and T , working together at their respective constant rates, can do a certain printing job in 4 hours. S and T , working together at their respective constant rates, can do the same job in 5 hours. How many hours would it take R , working alone at its constant rate, to do the same job?

- F. 8
- G. 10
- H. 12
- I. 15
- J. 20

Answer:

Q22:

When tossed, a certain coin has equal probability of landing on either side. If the coin is tossed 3 times, what is the probability that it will land on the same side each time?

- A. $\frac{1}{8}$
- B. $\frac{1}{4}$
- C. $\frac{1}{3}$
- D. $\frac{3}{8}$
- E. $\frac{1}{2}$

Answer:

Q23:

In the decimal representation of x , where $0 < x < 1$, is the tenths digit if x nonzero?

- (1) $16x$ is an integer.
- (2) $8x$ is an integer.

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
- D. **EACH** statement **ALONE** is sufficient.
- E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q24:

In a certain English class, $\frac{1}{4}$ of the number of girls is equal to $\frac{1}{6}$ of the total number of students. What is the ratio of the number of boys to the number of girls in the class?

- A. 1 to 4
- B. 1 to 3
- C. 1 to 2
- D. 2 to 3
- E. 2 to 1

Answer:

Q25:

In the xy -plane, the vertices of a triangle have coordinates (0, 0), (3, 3), and (7, 0). What is the perimeter of the triangle?

- A. 13
- B. $\sqrt{34}$
- C. $\sqrt{43}$
- D. $7 + 6\sqrt{2}$
- E. $12 + 3\sqrt{2}$

Answer:

Q26:

If $|n + 5| = 5$, what is the value of n ?

- (1) n^2 is not equal to 0.
- (2) $n^2 + 10n = 0$

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
- D. **EACH** statement **ALONE** is sufficient.
- E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q27:

A store's selling price of \$2,240 for a certain computer would yield a profit of 40 percent of the store's cost for the computer. What selling price would yield a profit of 50 percent of the computer's cost?

- F. \$2,400
- G. \$2,464
- H. \$2,650
- I. \$2,732
- J. \$2,800

Answer:

Q28:

If the volume of a small container is 14,520 cubic millimeters, what is the volume of the container in cubic centimeters? (1 millimeter = 0.1 centimeter)

- F. 0.1452
- G. 1.452
- H. 14.52
- I. 145.2
- J. 1,452

Answer:

Q29:

Which of the following is equal to $\frac{2^{12} - 2^6}{2^6 - 2^3}$?

- F. $2^6 + 2^3$
- G. $2^6 - 2^3$
- H. 2^9
- I. 2^3
- J. 2

Answer:

Q30:

If the sequence $x_1, x_2, x_3, \dots, x_n, \dots$ is such that $x_1 = 3$ and $x_{n+1} = 2x_n - 1$ for $n \geq 1$, then $x_{20} - x_{19} =$

- K. 2^{19}
- L. 2^{20}
- M. 2^{21}
- N. $2^{20} - 1$
- O. $2^{21} - 1$

Answer:

Q31:

In a certain English class, $\frac{1}{4}$ of the number of girls is equal to $\frac{1}{6}$ of the total number of students. What is the ratio of the number of boys to the number of girls in the class?

- A. 1 to 4
- B. 1 to 3
- C. 1 to 2
- D. 2 to 3
- E. 2 to 1

Answer:

Q32:

If $xyz \neq 0$, is $x(y + z) \geq 0$?

- (1) $|y + z| = |y| + |z|$
(2) $|x + y| = |x| + |y|$

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
D. **EACH** statement **ALONE** is sufficient.
E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q33:

In the decimal representation of x , where $0 < x < 1$, is the tenths digit of x nonzero?

- (1) $16x$ is an integer.
(2) $8x$ is an integer.

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
D. **EACH** statement **ALONE** is sufficient.
E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q34:

If $xy \neq 0$, what is the value of $\frac{25x^2}{y^2}$?

- (1) $x = 3$
(2) $5x - 2y = 0$

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
D. **EACH** statement **ALONE** is sufficient.
E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q35:

Stations X and Y are connected by two separate, straight, parallel rail lines that are 250 miles long. Train P and train Q simultaneously left Station X and Station Y , respectively, and each train traveled to the other's point of departure. The two trains passed each other

after traveling for 2 hours. When the two trains passed, which train was nearer to its destination?

- (1) At the time when the two trains passed, train *P* had averaged a speed of 70 miles per hour.
- (2) Train *Q* averaged a speed of 55 miles per hour for the entire trip.

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
- D. **EACH** statement **ALONE** is sufficient.
- E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q36:

What is the median number of employees assigned per project for the projects at Company Z?

- (1) 25 percent of the projects at Company Z have 4 or more employees assigned to each project.
- (2) 35 percent of the projects at Company Z have 2 or fewer employees assigned to each project.

- A. Statement (1) **ALONE** is sufficient, but statement (2) alone is not sufficient.
- B. Statement (2) **ALONE** is sufficient, but statement (1) alone is not sufficient.
- C. **BOTH** statements **TOGETHER** are sufficient, but **NEITHER** statement **ALONE** is sufficient.
- D. **EACH** statement **ALONE** is sufficient.
- E. Statements (1) and (2) **TOGETHER** are **NOT** sufficient.

Answer:

Q37:

Of the following, which is greatest?

- A. $(1/5)^{-2}$
- B. $(1/3)^{-2}$
- C. 3^{-2}
- D. 5^{-2}
- E. 2^3

Answer:

PART II

Q1:

Although she had been known as an effective legislator first in the Texas Senate and later in the United States House of Representatives, not until Barbara Jordan's participation in the hearings on the impeachment of President Richard Nixon in 1974 was she made a nationally recognized figure, as it was televised nationwide.

TT. later in the United States House of Representatives, not until Barbara Jordan's participation in the hearings on the impeachment of President Richard Nixon in 1974 was she made a nationally recognized figure, as it was

UU. later in the United States House of Representatives, Barbara Jordan did not become a nationally recognized figure until 1974, when she participated in the hearings on the impeachment of President Richard Nixon, which were

VV. later in the United States House of Representatives, it was not until 1974 that Barbara Jordan became a nationally recognized figure, with her participation in the hearings on the impeachment of President Richard Nixon, which was

WW. then also later in the United States House of Representatives, not until 1974 did Barbara Jordan become a nationally recognized figure, as she participated in the hearings on the impeachment of President Richard Nixon, being

XX. then also later in the United States House of Representatives, Barbara Jordan did not become a nationally recognized figure until 1974, when she participated in the hearings on the impeachment of President Richard Nixon, which was

Answer:

Q2 to Q4:

Firms traditionally claim that they downsize (i.e., make permanent personnel cuts) for economic reasons, laying off supposedly unnecessary staff in an attempt to become more efficient and competitive. Organization theory would explain this reasoning as an example of the "economic rationality" that it assumes underlies all organizational activities. There is evidence that firms believe they are behaving rationally whenever they downsize; yet recent research has shown that the actual economic effects of downsizing are often negative for firms. Thus, organization theory cannot adequately explain downsizing; non-economic factors must also be considered. One such factor is the evolution of downsizing into a powerful business

- myth: managers simply believe that downsizing is efficacious. Moreover, downsizing nowadays is greeted favorably by the business press; the
- (25) press often refers to soaring stock prices of downsizing firms (even though research shows that stocks usually rise only briefly after downsizing and then suffer a prolonged decline).
- (30) Once viewed as a sign of desperation, downsizing is now viewed as a signal that firms are serious about competing in the global marketplace; such signals are received positively by key actors—
- (35) financial analysts, consultants, shareholders—who supply firms with vital organizing resources. Thus, even if downsizers do not become economically more efficient, downsizing's mythic
- (40) properties give them added prestige in the business community, enhancing their survival prospects.
-

Q2:

According to the passage, the “key actors” (line 34) view a firm’s downsizing activities as an indication of the firm’s

- Z. troubled financial condition
- AA. inability to develop effective long-term strategies
- BB. inability to retain vital organizational resources
- CC. desire to boost its stock price
- DD. desire to become more competitive

Answer:

Q3:

The primary purpose of the passage is to

- TT. criticize firms for engaging in the practice of downsizing
- UU. analyze the negative economic impact of downsizing on firms
- VV. offer an alternative to a traditional explanation for the occurrence of downsizing
- WW. chronicle how perceptions of downsizing have changed over time
- XX. provide evidence disputing the prevalence of downsizing

Answer:

Q4:

The passage suggests which of the following about the claim that a firm will become more efficient and competitive by downsizing?

- JJ. Few firms actually believe this claim to be true.
- KK. Fewer firms have been making this claim in recent years.
- LL. This claim contradicts the basic assumption of organization theory.
- MM. This claim is called into question by certain recent research.
- NN. This claim is often treated with skepticism by the business press.

Answer:

Q5:

Vorland's government is planning a nationwide ban on smoking in restaurants. The objection that the ban would reduce restaurants' revenues is ill founded. Several towns in Vorland enacted restaurant smoking restrictions five years ago. Since then, the amount the government collects in restaurant meal taxes in those towns has increased 34 percent, on average, but only 26 percent elsewhere in Vorland. The amount collected in restaurant meal taxes closely reflects restaurants' revenues.

Which of the following, if true, most undermines the defense of the government's plan?

- Z. When the state first imposed a restaurant meal tax, opponents predicted that restaurants' revenues would decline as a result, a prediction that proved to be correct in the short term.
- AA. The tax on meals in restaurants is higher than the tax on many other goods and services.
- BB. Over the last five years, smoking has steadily declined throughout Vorland.
- CC. In many of the towns that restrict smoking in restaurants, restaurants can maintain separate dining areas where smoking is permitted.
- DD. Over the last five years, government revenues from sales taxes have grown no faster in the towns with restaurant smoking restrictions than in the towns that have no such restrictions.

Answer:

Q6:

After more than four decades of research and development, a new type of jet engine is being tested that could eventually propel aircraft anywhere in the world within two hours or help boost cargoes into space at significantly lower costs than current methods permit.

- F. tested that could eventually propel aircraft anywhere in the world within two hours or help
- G. tested that could eventually have the capability of propelling aircraft anywhere in the world within two hours or to help
- H. tested, eventually able to propel aircraft anywhere in the world within two hours, or helping
- I. tested, and it eventually could propel aircraft anywhere in the world within two hours or helping

- J. tested, and it could eventually have the capability to propel aircraft anywhere in the world within two hours or help

Answer:

Q7:

Which of the following most logically completes the argument?

A significant number of Qualitex Corporation's department heads are due to retire this year. The number of employees other than current department heads who could take on the position of department head is equal to only about half of the expected vacancies. Qualitex is not going to hire department heads from outside the company or have current department heads take over more than one department, so some departments will be without department heads next year unless Qualitex _____.

- A. promotes some current department heads to higher-level managerial positions
- B. raises the salary for department heads
- C. reduces the number of new employees it hires next year
- D. reduces the average number of employees per department
- E. reduces the number of its departments

Answer:

Q8:

A new hair-growing drug is being sold for three times the price, per milligram, as the drug's maker charges for another product with the same active ingredient.

- F. as
- G. than
- H. that
- I. of what
- J. at which

Answer:

Q9:

Business Analyst: National Motors began selling the Luxora—its new model of sedan—in June. Last week, National released sales figures for the summer months of June, July, and August that showed that by the end of August only 80,000 Luxoras had been sold. Therefore, National will probably not meet its target of selling 500,000 Luxoras in the model's first twelve months.

Which of the following would be most useful to establish in order to evaluate the analyst's prediction?

- A. Whether new-car sales are typically lower in the summer months than at any other time of the year
- B. Whether National Motors currently produces more cars than any other automaker

- C. Whether the Luxora is significantly more expensive than other models produced by National Motors
- D. Whether National Motors has introduced a new model in June in any previous year
- E. Whether National Motors will suffer serious financial losses if it fails to meet its sales goal for the Luxora

Answer:

Q10:

Authoritative parents are more likely than permissive parents to have children who as adolescents are self-confident, high in self-esteem, and responsibly independent.

- F. Authoritative parents are more likely than permissive parents to have children who as adolescents are self-confident, high in self-esteem, and responsibly independent.
- G. Authoritative parents who are more likely than permissive parents to have adolescent children that are self-confident, high in self-esteem, and responsibly independent.
- H. Children of authoritative parents, rather than permissive parents, are the more likely to be self-confident, have a high self-esteem, and to be responsibly independent as adolescents.
- I. Children whose parents are authoritative rather than being permissive, are more likely to have self-confidence, a high self-esteem, and be responsibly independent when they are an adolescent.
- J. Rather than permissive parents, the children of authoritative parents are the more likely to have self-confidence, a high self-esteem, and to be responsibly independent as an adolescent.

Answer:

Q11:

A South American bird that forages for winged termites and other small insects while swinging upside down from the foliage of tall trees, the graveteiro belongs to the ovenbird family, a group of New World tropical birds that includes more than 230 species and that are represented in virtually every kind of habitat.

- A. graveteiro belongs to the ovenbird family, a group of New World tropical birds that includes more than 230 species and that are
- B. graveteiro belongs to the ovenbird family, a group of New World tropical birds that includes more than 230 species and is
- C. graveteiro belongs to the ovenbird family, a group of New World tropical birds that include more than 230 species and is
- D. graveteiro, which belongs to the ovenbird family, a group of New World tropical birds that includes more than 230 species and that are
- E. graveteiro, which belongs to the ovenbird family, a group of New World tropical birds that includes more than 230 species and is

Answer:

Q12:

A study by the Ocean Wildlife Campaign urged states to undertake a number of remedies to reverse a decline in the shark population, which includes the establishment of size limits for shark catches, closing state waters for shark fishing during pupping season, and requiring commercial fishers to have federal shark permits.

- A. which includes the establishment of size limits for shark catches, closing
- B. which includes establishing limits to the size of sharks that can be caught, closing
- C. which include the establishment of size limits for shark catches, the closing of
- D. including establishing size limits for shark catches, closing
- E. including the establishing of limits to the size of sharks that are caught, the closing of

Answer:

Q13:

Being that she was secretary of labor, Frances Perkins' considerable influence with Franklin D. Roosevelt was used preventing him from restraining strikes by longshoremen and automobile workers.

- A. Being that she was secretary of labor, Frances Perkins' considerable influence with Franklin D. Roosevelt was used preventing
- B. As secretary of labor, Frances Perkins' considerable influence with Franklin D. Roosevelt was used to prevent
- C. Being secretary of labor, Frances Perkins' considerable influence with Franklin D. Roosevelt was used preventing
- D. As secretary of labor, Frances Perkins used her considerable influence with Franklin D. Roosevelt to prevent
- E. Secretary of labor, Frances Perkins' considerable influence was used with Franklin D. Roosevelt preventing

Answer:

Q14:

Maize contains the vitamin niacin, but not in a form the body can absorb. Pellagra is a disease that results from niacin deficiency. When maize was introduced into southern Europe from the Americas in the eighteenth century, it quickly became a dietary staple, and many Europeans who came to subsist primarily on maize developed pellagra. Pellagra was virtually unknown at that time in the Americas, however, even among people who subsisted primarily on maize.

Which of the following, if true, most helps to explain the contrasting incidence of pellagra described above?

- F. Once introduced into southern Europe, maize became popular with landowners because of its high yields relative to other cereal crops.

- G. Maize grown in the Americas contained more niacin than maize grown in Europe did.
- H. Traditional ways of preparing maize in the Americas convert maize's niacin into a nutritionally useful form.
- I. In southern Europe many of the people who consumed maize also ate niacin-rich foods.
- J. Before the discovery of pellagra's link with niacin, it was widely believed that the disease was an infection that could be transmitted from person to person.

Answer:

Q15:

Concerns about public health led to the construction between 1876 and 1904 of three separate sewer systems to serve metropolitan Boston.

- F. Concerns about public health led to the construction between 1876 and 1904 of three separate sewer systems to serve
- G. Concerns about public health have led to the construction of three separate sewer systems between 1876 and 1904 to serve
- H. Concerns about public health have led between 1876 and 1904 to the construction of three separate sewer systems for serving
- I. There were concerns about public health leading to the construction between 1876 and 1904 of three separate sewer systems serving
- J. There were concerns leading between 1876 and 1904 to the construction of three separate sewer systems for serving

Answer:

Q16 to Q19:

- In 1675, Louis XIV established the Parisian seamstresses' guild, the first independent all-female guild
- Line* (5) created in over 200 years. Guild members could make and sell women's and children's clothing, but were prohibited from producing
- (10) men's clothing or dresses for court women. Tailors resented the ascension of seamstresses to guild status; seamstresses, meanwhile,
- (15) were impatient with the remaining restrictions on their right to clothe women.

The conflict between the guilds was not purely

- (20) economic, however. A 1675 police report indicated that since so many seamstresses were already working illegally, the tailors were unlikely to
- (25) suffer additional economic damage because of the seamstresses' incorporation. Moreover, guild membership held very different meanings
- (30) for tailors and seamstresses. To the tailors, their status as guild members overlapped with their role as heads of household, and entitled them
- (35) to employ as seamstresses female family members who did not marry outside the trade. The seamstresses, however, viewed guild membership as
- (40) a mark of independence from the patriarchal family. Their guild was composed not of family units but of individual women who enjoyed unusual
- (45) legal and economic privileges. At the conflict's center was the issue of whether tailors' female relatives should be identified as family members
- (50) protected by the tailors' guild or as individuals under the jurisdiction of the seamstresses' guild.
-

Q16:

The primary purpose of the passage is to

- A. outline a scholarly debate over the impact of the Parisian seamstresses' guild
- B. summarize sources of conflict between the newly created Parisian seamstresses' guild and the tailors' guild
- C. describe opposing views concerning the origins of the Parisian seamstresses' guild
- D. explore the underlying reasons for establishing an exclusively female guild in seventeenth-century Paris

- E. correct a misconception about changes in seamstresses' economic status that took place in Paris in the late seventeenth century

Answer:

Q17:

According to the passage, one source of dissatisfaction for Parisian seamstresses after the establishment of the seamstresses' guild was that

- A. seamstresses were not allowed to make and sell clothing for all women
- B. tailors continued to have the exclusive legal right to clothe men
- C. seamstresses who were relatives of tailors were prevented from becoming members of the seamstresses' guild
- D. rivalry between individual seamstresses increased, thus hindering their ability to compete with the tailors for business
- E. seamstresses were not allowed to accept male tailors as members of the guild

Answer:

Q18:

It can be inferred from the passage that which of the following was true of seamstresses employed by relatives who were members of the tailors' guild?

- A. They were instrumental in convincing Louis XIV to establish the seamstresses' guild.
- B. They were rarely allowed to assist master tailors in the production of men's clothing.
- C. They were considered by some tailors to be a threat to the tailors' monopoly.
- D. They did not enjoy the same economic and legal privileges that members of the seamstresses' guild enjoyed.
- E. They felt their status as working women gave them a certain degree of independence from the patriarchal family.

Answer:

Q19:

The author mentions the seamstresses' view of guild membership as a "mark of independence from the patriarchal family" (lines 40-41) primarily in order to

- TT. emphasize that the establishment of the seamstresses' guild had implications that were not solely economic
- UU. illustrate the conflict that existed between tailors and their female family members over membership in the tailors' guild
- VV. imply that the establishment of the seamstresses' guild ushered in a period of increased economic and social freedom for women in France
- WW. provide an explanation for the dramatic increase in the number of women working as seamstresses after 1675
- XX. indicate that members of the seamstresses' guild were financially more successful than were tailors' female relatives protected by the tailors' guild

Answer:

Q20:

Charles Lindbergh, for his attempt at a solo transatlantic flight, was very reluctant to have any extra weight on his plane, he therefore refused to carry even a pound of mail, despite being offered \$1,000 to do so.

- F. Charles Lindbergh, for his attempt at a solo transatlantic flight, was very reluctant to have any extra weight on his plane, he therefore
- G. When Charles Lindbergh was attempting his solo transatlantic flight, being very reluctant to have any extra weight on his plane, he
- H. Since he was very reluctant to carry any extra weight on his plane when he was attempting his solo transatlantic flight, so Charles Lindbergh
- I. Being very reluctant to carry any extra weight on his plane when he attempted his solo transatlantic flight was the reason that Charles Lindbergh
- J. Very reluctant to have any extra weight on his plane when he attempted his solo transatlantic flight, Charles Lindbergh

Answer:

Q21:

Despite the growing number of people who purchase plane tickets online, airline executives are convinced that, just as one-third of bank customers still prefer human tellers to automatic teller machines, many travelers will still use travel agents.

- A. growing number of people who purchase plane tickets online, airline executives are convinced that, just as one-third of bank customers still prefer human tellers to automatic teller machines, many travelers will
- B. growing number of people who purchase plane tickets online, airline executives are convinced, just as one-third of bank customers still prefer human tellers to automatic teller machines, that many travelers would
- C. growing number of people purchasing plane tickets online, airline executives are convinced, just as one-third of bank customers still prefer human tellers as compared to automatic teller machines, many travelers will
- D. fact that the number of people purchasing plane tickets online is growing, airline executives are convinced, just as one-third of bank customers still prefer human tellers as compared to automatic teller machines, that many travelers would
- E. fact that the number of people who purchase plane tickets online are growing, airline executives are convinced that, just as one-third of bank customers still prefer human tellers compared with automatic teller machines, many travelers would

Answer:

Q22:

In a certain wildlife park, park rangers are able to track the movements of many rhinoceroses because those animals wear radio collars. When, as often happens, a collar slips off, it is put back on. Putting a collar on a rhinoceros involves immobilizing the

animal by shooting it with a tranquilizer dart. Female rhinoceroses that have been frequently recollared have significantly lower fertility rates than uncollared females. Probably, therefore, some substance in the tranquilizer inhibits fertility.

Which of the following is an assumption on which the argument depends?

- A. The dose of tranquilizer delivered by a tranquilizer dart is large enough to give the rangers putting collars on rhinoceroses a generous margin of safety.
- B. The fertility rate of uncollared female rhinoceroses in the park has been increasing in the past few decades.
- C. Any stress that female rhinoceroses may suffer as a result of being immobilized and handled has little or no negative effect on their fertility.
- D. The male rhinoceroses in the wildlife park do not lose their collars as often as the park's female rhinoceroses do.
- E. The tranquilizer used in immobilizing rhinoceroses is the same as the tranquilizer used in working with other large mammals.

Answer:

Q23:

In January of last year the Moviemania chain of movie theaters started propping its popcorn in canola oil, instead of the less healthful coconut oil that it had been using until then. Now Moviemania is planning to switch back, saying that the change has hurt popcorn sales. That claim is false, however, since according to Moviemania's own sales figures, Moviemania sold 5 percent more popcorn last year than in the previous year.

Which of the following, if true, most strongly supports the argument against Moviemania's claim?

- A. Total sales of all refreshments at Moviemania's movie theaters increased by less than 5 percent last year.
- B. Moviemania makes more money on food and beverages sold at its theaters than it does on sales of movie tickets.
- C. Moviemania's customers prefer the taste of popcorn popped in coconut oil to that of popcorn popped in canola oil.
- D. Total attendance at Moviemania's movie theaters was more than 20 percent higher last year than the year before.
- E. The year before last, Moviemania experienced a 10 percent increase in popcorn sales over the previous year.

Answer:

Q24 to Q26:

Anthropologists studying the
Hopi people of the southwestern
United States often characterize
Line Hopi society between 1680 and
(5) 1880 as surprisingly stable, con-

sidering that it was a period of diminution in population and pressure from contact with outside groups, factors that might be expected to cause significant changes in Hopi social arrangements.

The Hopis' retention of their distinctive sociocultural system has been attributed to the Hopi religious elite's determined efforts to preserve their religion and way of life, and also to a geographical isolation greater than that of many other Native American groups, an isolation that limited both cultural contact and exposure to European diseases. But equally important to Hopi cultural persistence may have been an inherent flexibility in their social system that may have allowed preservation of traditions even as the Hopis accommodated themselves to change. For example, the system of matrilineal clans was maintained throughout this period, even though some clans merged to form larger groups while others divided into smaller descent groups. Furthermore, although traditionally members of particular Hopi clans appear to have exclusively controlled particular ceremonies, a clan's control of a ceremony might shift to another clan if the first became too small to manage the responsibility. Village leadership positions traditionally restricted to members of one clan might be similarly extended to members of other clans, and women might assume such positions under certain

unusual conditions.

Q24:

The author of the passage would be most likely to agree with which of the following statements about the explanation outlined in lines 13-24?

- A. It fails to take into account the effect of geographical circumstances on Hopi culture.
- B. It correctly emphasizes the role of the religious elite in maintaining the system of matrilineal clans.
- C. It represents a misreading of Hopi culture because it fails to take into account the actual differences that existed among the various Hopi clans.
- D. It underestimates the effect on Hopi cultural development of contact with other cultural groups.
- E. It is correct but may be insufficient in itself to explain Hopi sociocultural persistence.

Answer:

Q25:

Which of the following can be inferred from the passage about the Hopis' geographic situation between 1680 and 1880?

- A. It prevented the Hopis from experiencing a diminution in population.
- B. It helped to promote flexibility within their social system.
- C. It limited but did not eliminate contact with other cultural groups.
- D. It reinforced the religious elite's determination to resist cultural change.
- E. It tended to limit contact between certain Hopi clans.

Answer:

Q26:

The passage is primarily concerned with

- A. reassessing a phenomenon in light of new findings
- B. assessing the relative importance of two factors underlying a phenomenon
- C. examining the assumptions underlying an interpretation of a phenomenon
- D. expanding on an explanation of a phenomenon
- E. contrasting two methods for evaluating a phenomenon

Answer:

Q27:

Which if the following, if true, most logically completes the argument?

Aroca County's public schools are supported primarily by taxes on property. The county plans to eliminate the property tax and support schools with a new three percent sales tax on all retail items sold in the county. Three percent of current retail sales is less than the amount collected through property taxes, but implementation of the plan would not

necessarily reduce the amount of money going to Aroca County public schools, because _____.

- A. many Aroca County residents have already left the county because of its high property taxes
- B. a shopping mall likely to draw shoppers from neighboring counties is about to open in Aroca County
- C. at least some Aroca County parents are likely to use the money they will save on property taxes to send their children to private schools not funded by the county
- D. a significant proportion of parents of Aroca County public school students do not own their homes and consequently do not pay property taxes
- E. retailers in Aroca County are not likely to absorb the sales tax by reducing the pretax price of their goods

Answer:

Q28:

Fossils of the arm of a sloth found in Puerto Rico in 1991, and dated at 34 million years old, made it the earliest known mammal of the Greater Antilles islands.

- A. sloth found in Puerto Rico in 1991, and dated at 34 million years old, made it the earliest known mammal of
- B. sloth, that they found in Puerto Rico in 1991, has been dated at 34 million years old, thus making it the earliest mammal known on
- C. sloth that was found in Puerto Rico in 1991, was dated at 34 million years old, making this the earliest known mammal of
- D. sloth, found in Puerto Rico in 1991, have been dated at 34 million years old, making the sloth the earliest known mammal on
- E. sloth which, found in Puerto Rico in 1991, was dated at 34 million years old, made the sloth the earliest known mammal of

Answer:

Q29:

For protection from the summer sun, the Mojave lived in open-sided, flat-topped dwellings known as shades, each a roof of poles and arrowweed supported by posts set in a rectangle.

- A. each a roof of poles and arrowweed
- B. each a roof of poles and arrowweed that are being
- C. with each being a roof of poles and arrowweed
- D. with roofs of poles and arrowweed to be
- E. with roofs of poles and arrowweed that are

Answer:

Q30:

For the first time in the modern era, non-Hispanic Whites are officially a minority in California, which amounts to a little less than half the population of the state, down from nearly three-quarters only a decade ago.

- A. which amounts to a little less than half the population of the state, down from nearly three-quarters only a decade ago
- B. which amounts to a little less than half the population of the state, down from a decade ago, when it was nearly three-quarters
- C. and that amounts to a little less than half the population of the state, down from a decade ago, when they were nearly three-quarters
- D. amounting to a little less than half the population of the state, down from nearly three-quarters a decade ago
- E. amounting to a little less than half the population of the state, down from what it was a decade ago by nearly three-quarters

Answer:

Q31:

By competing with rodents for seeds, black ants help control rodent populations that pose a public health risk. However, a very aggressive species of black ant, the Loma ant, which has recently invaded a certain region, has a venomous sting that is often fatal to humans. Therefore, the planned introduction into that region of ant flies, which prey on Loma ants, would benefit public health.

Which of the following, if true, most strengthens the argument?

- A. Ant flies do not attack black ants other than Loma ants.
- B. Loma ants are less effective than many bird species in competing with rodents for seeds.
- C. Certain other species of black ants are more effective than Loma ants in competing with rodents for seeds.
- D. The sting of Loma ants can also be fatal to rodents.
- E. The use of pesticides to control Loma ants could have harmful effects on the environment.

Answer:

Q32:

Macrophages are cells that play a role in the response of the immune system of mice and other mammals to invasive organisms such as bacteria. Unlike other mice, mice that are genetically incapable of making these particular cells do not show elevated levels of nitrates when infected with bacteria.

The statements above, if true, provide the most support for which of the following conclusions?

- A. Mice that are unable either to make macrophages or to make them in sufficient numbers will protect themselves from bacterial infections in some other way.
- B. Mice that show elevated levels of nitrates can easily fight off most types of bacterial infections.
- C. In mice, macrophages play a role in the production of nitrates or inhibit a process by which nitrates are broken down or otherwise eliminated.
- D. When a healthy mouse becomes infected with an invasive organism, the number of macrophages in the mouse's body decreases.
- E. Injections of nitrates into mice that lack macrophages will not enhance the ability of these animals' immune systems to fight off infection.

Answer:

Q33:

For the last five years the Dutch economy has grown faster than Britain, France, or Germany, with the unemployment rate having remained well below that of the other three countries.

- A. Britain, France, or Germany, with the unemployment rate having remained
- B. have those of Britain, France, or Germany, and the unemployment rate remaining
- C. have Britain, France, and Germany, and the unemployment rate has remained
- D. the economy of Britain, France, and Germany, with the unemployment rate that has remained
- E. the economies of Britain, France, and Germany, and the unemployment rate has remained

Answer:

Q34 to Q37:

A small number of the forest species of lepidoptera (moths and butterflies, which exist as caterpillars during most of their life cycle) exhibit

Line (5) regularly recurring patterns of population growth and decline—such fluctuations in population are known as population cycles. Although many different variables influence population levels, a regular pattern such as

(10) a population cycle seems to imply a dominant, driving force. Identification of that driving force, however, has proved surprisingly elusive despite

(15) considerable research. The common approach of studying causes of population cycles by measuring the mortality caused by different agents, such as predatory birds or parasites,

- (20) has been unproductive in the case of lepidoptera. Moreover, population ecologists' attempts to alter cycles by changing the caterpillars' habitat and by reducing caterpillar populations have not succeeded. In short, the evidence implies that these insect populations, if not self-regulating, may at least be regulated by an agent more intimately connected with the insect than are predatory birds or parasites.

- Recent work suggests that this agent may be a virus. For many years, viral disease had been reported in declining populations of caterpillars, but population ecologists had usually considered viral disease to have contributed to the decline once it was underway rather than to have initiated it. The recent work has been made possible by new techniques of molecular biology that allow viral DNA to be detected at low concentrations in the environment. Nuclear polyhedrosis viruses are hypothesized to be the driving force behind population cycles in lepidoptera in part because the viruses themselves follow an infectious cycle in which, if protected from direct sun light, they may remain virulent for many years in the environment, embedded in durable crystals of polyhedrin protein. Once ingested by a caterpillar, the crystals dissolve, releasing the virus to infect the insect's cells. Late in the course of the infection, millions of new virus particles are formed and enclosed in polyhedrin crystals. These crystals reenter the environment after the insect dies and decomposes, thus becoming available to infect other caterpillars.

- One of the attractions of this hypothesis is its broad applicability.

Remarkably, despite significant differences in habitat and behavior, many species of lepidoptera have population cycles of similar length, between eight and eleven years. Nuclear polyhedrosis viral infection is one factor these disparate species share.

(70)

Q34:

Which of the following, if true, would most weaken the author's conclusion in lines 25-30?

- A. New research reveals that the number of species of birds and parasites that prey on lepidoptera has dropped significantly in recent years.
- B. New experiments in which the habitats of lepidoptera are altered in previously untried ways result in the shortening of lepidoptera population cycles.
- C. Recent experiments have revealed that the nuclear polyhedrosis virus is present in a number of predators and parasites of lepidoptera.
- D. Differences among the habitats of lepidoptera species make it difficult to assess the effects of weather on lepidoptera population cycles.
- E. Viral disease is typically observed in a large proportion of the lepidoptera population.

Answer:

Q35:

It can be inferred from the passage that the mortality caused by agents such as predatory birds or parasites was measured in an attempt to

- A. develop an explanation for the existence of lepidoptera population cycles
- B. identify behavioral factors in lepidoptera that affect survival rates
- C. identify possible methods for controlling lepidoptera population growth
- D. provide evidence that lepidoptera populations are self-regulating
- E. determine the life stages of lepidoptera at which mortality rates are highest

Answer:

Q36:

The primary purpose of the passage is to

- A. describe the development of new techniques that may help to determine the driving force behind population cycles in lepidoptera
- B. present evidence that refutes a particular theory about the driving force behind population cycles in lepidoptera
- C. present a hypothesis about the driving force behind population cycles in lepidoptera
- D. describe the fluctuating patterns of population cycles in lepidoptera

- E. question the idea that a single driving force is behind population cycles in lepidoptera

Answer:

Q37:

According to the passage, before the discovery of new techniques for detecting viral DNA, population ecologists believed that viral diseases

- A. were not widely prevalent among insect populations generally
- B. affected only the caterpillar life stage of lepidoptera
- C. were the driving force behind lepidoptera population cycles
- D. attacked already declining caterpillar populations
- E. infected birds and parasites that prey on various species of lepidoptera

Answer:

Q38:

Frobisher, a sixteenth-century English explorer, had soil samples from Canada's Kodlunarn Island examined for gold content. Because high gold content was reported, Elizabeth I funded two mining expeditions. Neither expedition found any gold there. Modern analysis of the island's soil indicates a very low gold content. Thus the methods used to determine the gold content of Frobisher's samples must have been inaccurate.

Which of the following is an assumption on which the argument depends?

- F. The gold content of the soil on Kodlunarn Island is much lower today than it was in the sixteenth century.
- G. The two mining expeditions funded by Elizabeth I did not mine the same part of Kodlunarn Island.
- H. The methods used to assess gold content of the soil samples provided by Frobisher were different from those generally used in the sixteenth century.
- I. Frobisher did not have soil samples from any other Canadian island examined for gold content.
- J. Gold was not added to the soil samples collected by Frobisher before the samples were examined.

Answer:

Q39:

Which of the following most logically completes the argument below?

According to promotional material published by the city of Springfield, more tourists stay in hotels in Springfield than stay in the neighboring city of Harristown. A brochure from the largest hotel in Harristown claims that more tourists stay in that hotel than stay in the Royal Arms Hotel in Springfield. If both of these sources are accurate, however, the "Report on Tourism" for the region must be in error in stating that _____.

- A. the average length of stay is longer at the largest hotel in Harristown than it is at the Royal Arms Hotel
- B. there is only one hotel in Harristown that is larger than the Royal Arms Hotel
- C. more tourists stay in hotels in Harristown than stay in the Royal Arms Hotel
- D. the Royal Arms Hotel is the largest hotel in Springfield
- E. the Royal Arms Hotel is the only hotel in Springfield

Answer:

Q40:

In response to viral infection, the immune systems of mice typically produce antibodies that destroy the virus by binding to proteins on its surface. Mice infected with a herpesvirus generally develop keratitis, a degenerative disease affecting part of the eye. Since proteins on the surface of cells in this part of the eye closely resemble those on the herpesvirus surface, scientists hypothesize that these cases of keratitis are caused by antibodies to herpesvirus.

Which of the following, if true, gives the greatest additional support to the scientists' hypothesis?

- A. Other types of virus have surface proteins that closely resemble proteins found in various organs of mice.
- B. There are mice that are unable to form antibodies in response to herpes infections, and these mice contract herpes at roughly the same rate as other mice.
- C. Mice that are infected with a herpesvirus but do not develop keratitis produce as many antibodies as infected mice that do develop keratitis.
- D. There are mice that are unable to form antibodies in response to herpes infections, and these mice survive these infections without ever developing keratitis.
- E. Mice that have never been infected with a herpesvirus can sometimes develop keratitis.

Answer:

Q41:

In April 1997, Hillary Rodham Clinton hosted an all-day White House scientific conference on new findings that indicates a child's acquiring language, thinking, and emotional skills as an active process that may be largely completed before age three.

- K. that indicates a child's acquiring language, thinking, and emotional skills as
- L. that are indicative of a child acquiring language, thinking, and emotional skills as
- M. to indicate that when a child acquires language, thinking, and emotional skills, that it is
- N. indicating that a child's acquisition of language, thinking, and emotional skills is
- O. indicative of a child's acquisition of language, thinking, and emotional skills as

Answer:

KEYS

SET1

Maths Answer:

1. A
2. E
3. D
4. A
5. D
6. A
7. E
8. D
9. B
10. C
11. D
12. D
13. E
14. B
15. C
16. E
17. D
18. B
19. D
20. B
21. B
22. C
23. B
24. D
25. A
26. A
27. A
28. E
29. E
30. C
31. A
32. D
33. E
34. A
35. E
36. E
37. A

Verbal Answer:

1. D
2. E
3. B
4. C
5. E
6. E
7. B
8. A
9. E
10. D
11. B
12. C
13. D
14. A
15. A
16. C
17. E
18. E
19. C
20. B
21. E
22. E
23. B
24. D
25. C
26. B
27. B
28. D
29. B
30. C
31. A
32. E
33. D
34. B
35. C
36. B
37. E
38. B
39. C
40. D
41. C

SET 2

Maths Answers:

- 1、 B
- 2、 C
- 3、 C
- 4、 E
- 5、 C
- 6、 D
- 7、 E
- 8、 E
- 9、 D
- 10、 B
- 11、 A
- 12、 E
- 13、 A
- 14、 E
- 15、 E
- 16、 E
- 17、 E
- 18、 D
- 19、 A
- 20、 C
- 21、 E
- 22、 D
- 23、 D
- 24、 D
- 25、 B
- 26、 B
- 27、 B
- 28、 D
- 29、 D
- 30、 D
- 31、 A
- 32、 B
- 33、 C
- 34、 A
- 35、 E
- 36、 B
- 37、 B

Verbal Answers:

- 1、 B
- 2、 A
- 3、 D
- 4、 B
- 5、 B
- 6、 E
- 7、 C
- 8、 E
- 9、 B
- 10、 B
- 11、 D
- 12、 C
- 13、 D
- 14、 E
- 15、 E
- 16、 C
- 17、 B
- 18、 C
- 19、 E
- 20、 (B?)E
- 21、 C
- 22、 D
- 23、 E
- 24、 E
- 25、 E
- 26、 A
- 27、 E
- 28、 E
- 29、 D
- 30、 C
- 31、 A
- 32、 A
- 33、 C
- 34、 D
- 35、 D
- 36、 E
- 37、 B
- 38、 A
- 39、 D
- 40、 C
- 41、 B

SET 3

Maths Answer:

1. D
2. D
3. A
4. D
5. E
6. E
7. E
8. C
9. D
10. C
11. A
12. C
13. A
14. E
15. E
16. E
17. D
18. A
19. E
20. D
21. E
22. B
23. C
24. C
25. E
26. A
27. D
28. B
29. B
30. C
31. B
32. E
33. B
34. D
35. E
36. C
37. B

Verbal Answer::

1. B
2. A
3. C
4. D
5. A
6. C
7. E
8. E
9. C
10. D
11. E
12. E
13. E
14. D
15. B
16. C
17. A
18. B
19. C
20. C
21. A
22. A
23. D
24. B
25. E
26. C
27. A
28. B
29. B
30. C
31. E
32. A
33. E
34. B
35. A
36. C
37. C
38. C
39. D
40. x
41. E

(Note: Q40 is missing!)

SET 4

Maths Answer:

1. E
2. E
3. B
4. D
5. D
6. D
7. D
8. B
9. C
10. C
11. A
12. D
13. B
14. E
15. E
16. E
17. A
18. E
19. C
20. E
21. E
22. D
23. C
24. B
25. D
26. A
27. C
28. E
29. E
30. C
31. E
32. D
33. C
34. A
35. E
36. C
37. B

Verbal Answer :

1. E
2. D

3. C
4. D
5. B
6. E(E)
7. D
8. B
9. E
10. C
11. D
12. E
13. E
14. E
15. A
16. C
17. C
18. B
19. C
20. D
21. A
22. C
23. A
24. B
25. E
26. C
27. D
28. E
29. B
30. E
31. B
32. A
33. C
34. D
35. C
36. A
37. A
38. E
39. B
40. C
41. B

SET 5

Maths Answer:

1. E
2. E
3. D

4. D
5. B
6. C
7. D
8. D
9. B
10. D
11. C
12. C
13. B
14. E
15. E
16. B
17. D
18. A
19. D
20. D
21. E
22. D
23. C
24. B
25. D
26. E
27. D
28. D
- 29.
30. A
31. E
32. D
33. C
34. E
35. D
36. C
37. A

Verbal Answer:

1. D
2. A
3. D
4. A
5. B

6. B
7. E
8. A
9. B
10. C
11. D
12. A
13. A
14. C
15. E
16. D
17. A
18. C
19. C
20. D
21. C
22. E
23. E
24. A
25. B
26. C
27. E
28. B
29. A
30. B
31. B
32. D
33. D
34. E
35. B
36. A
37. C
38. E
39. B
40. D
41. E

SET 6

Verbal Answers:

1. C
2. D
3. A
4. E
5. C
6. D
7. E

8. C
9. D
10. B
11. C
12. B
13. B
14. D
15. D
16. B
17. E
18. B
19. D
20. E
21. B
22. D
23. B
24. E
25. E
26. E
27. A
28. C
29. E
30. A
31. D
32. A
33. E
34. C
35. B
36. D(E)
37. B
38. B
39. B
40. D
41. C

Maths Answers:

1. B
2. D
3. D
4. C
5. A
6. D
7. B

8. C
9. C
10. D
11. D
12. D
13. E
14. D
15. B
16. A
17. D
18. D
19. A
20. E
21. C
22. D
23. E
24. E
25. D
26. C
27. C
28. A
29. C
30. D
31. C
32. D
33. D
34. E
35. B
36. D
37. E

SET 7

VERBAL Answers:

BBDBC, CAACB(E), BAEBD, E(C)DECA, ACBCD, EA(C)AEE, EEAEB, DAEB?A, B

MATH Answers:

DCADE, CBBAD, ECACA, DDDCE, DAAAA, CACAA, AABBD, EB

SET 8

Maths:

1. B
2. E

Verbal:

- 1.B
- 2.E

3. C	3.C
4. C	4.D
5. E	5.D
6. B	6.E
7. D	7.E
8. E	8.D
9. E	9.A
10. A	10.A
11. D	11.B
12. E	12.D
13. C	13.D
14. D	14.C
15. C	15.A
16. B	16.B
17. A	17.A
18. A	18.D
19. E	19.A
20. B	20.E
21. E	21.A
22. B	22.C
23. B	23.A
24. C	24.E
25. E	25.C
26. A	26.D
27. A	27.B
28. C	28.C
29. A	29.A
30. A	30.D
31. C	31.A
32. C	32.C
33. A	33.E
34. B	34.B
35. C	35.A
36. C	36.C
37. A	37.D

38.E
39.E
40.D
41.D

