

GMAT 2016 Practice Test with Solutions

Time Allowed : 3 Hours	Maximum Marks : 100
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General Instructions

Read the following instructions very carefully and strictly follow them:

1. The GMAT exam is 2 hours and 15 minutes long (with one optional 10-minute break) and consists of 64 questions in total.
2. The GMAT exam is comprised of three sections:
3. Quantitative Reasoning: 21 questions, 45 minutes
4. Verbal Reasoning: 23 questions, 45 minutes
5. Data Insights: 20 questions, 45 minutes
6. You can answer the three sections in any order. As you move through a section, you can bookmark questions that you would like to review later.
7. When you have answered all questions in a section, you will proceed to the Question Review & Edit screen for that section.
8. If there is no time remaining in the section, you will NOT proceed to the Question Review & Edit screen and you will automatically be moved to your optional break screen or the next section (if you have already taken your optional break).
9. Each Question Review & Edit screen includes a numbered list of the questions in that section and indicates the questions you bookmarked.
10. Clicking a question number will take you to that specific question. You can review as many questions as you would like and can edit up to three (3) answers.

1. Greg sells gaskets. On three sales, Greg has received commissions of \$385, \$70, and \$190, and he has one additional sale pending. If Greg is to receive an average (arithmetic mean) commission of exactly \$220 on the four sales, then the fourth commission must be:

- (A) \$135
- (B) \$155
- (C) \$220
- (D) \$235
- (E) \$645

Correct Answer: (D) \$235

Solution:

Step 1: Set up the equation for average commission.

The average commission is given by:

$$\frac{385 + 70 + 190 + x}{4} = 220$$

Where x is the fourth commission.

Step 2: Solve for x .

Multiplying both sides of the equation by 4:

$$385 + 70 + 190 + x = 880$$

Simplifying:

$$645 + x = 880$$

Now, solve for x :

$$x = 880 - 645 = 235$$

Final Answer:

235

Quick Tip

To find the required value for an average, set up an equation where the sum of the values divided by the number of terms equals the given average.

2. In an effort to plan out expenses, the Roberts family is representing its annual budget as a circle graph. Each sector of the graph is proportional to the amount of the budget it represents. If "clothes and shoes" takes up 54 of the chart, how much of the Roberts's \$20,000 annual budget is dedicated to clothes and shoes?

- (A) \$1,500
- (B) \$3,000

- (C) \$4,500
- (D) \$5,000
- (E) \$5,400

Correct Answer: (D) \$5,000

Solution:

Step 1: Proportion of the chart for clothes and shoes.

Since 54 of the circle represents clothes and shoes, the proportion is:

$$\frac{54}{360} = \frac{x}{20000}$$

where x is the amount spent on clothes and shoes.

Step 2: Solve for x .

$$x = \frac{54}{360} \times 20000 = 0.15 \times 20000 = 5000$$

Final Answer:

5000

Quick Tip

To calculate a budget based on a pie chart, use the ratio of the angle of the sector to the total angle of the circle (360).

3. What is the value of $3x^2 - 1.8x + 0.3$ for $x = 0.6$?

- (A) -0.3
- (B) 0
- (C) 0.3
- (D) 1.08
- (E) 2.46

Correct Answer: (C) 0.3

Solution:

Step 1: Substitute $x = 0.6$ into the expression.

$$3(0.6)^2 - 1.8(0.6) + 0.3 = 3(0.36) - 1.08 + 0.3$$

Step 2: Simplify the expression.

$$3(0.36) = 1.08, \quad -1.8(0.6) = -1.08$$

Now combine the terms:

$$1.08 - 1.08 + 0.3 = 0.3$$

Final Answer:

0.3

Quick Tip

When evaluating expressions, substitute the value of x and simplify step by step.

4. Over a three-week period, the price of an ounce of gold increased by 25% in the first week, decreased by 20% in the following week, and increased by 5% in the third week. If the price of gold was G dollars per ounce at the beginning of the three weeks, what was the price, in terms of G , at the end of the three weeks?

- (A) $0.95G$
- (B) G
- (C) $1.05G$
- (D) $1.1G$
- (E) $1.15G$

Correct Answer: (E) $1.15G$

Solution:

Step 1: Calculate the price after the first week.

The price increased by 25%, so the price after the first week is:

$$G \times 1.25$$

Step 2: Calculate the price after the second week.

The price decreased by 20%, so the price after the second week is:

$$G \times 1.25 \times 0.80 = G \times 1.00$$

Step 3: Calculate the price after the third week.

The price increased by 5%, so the final price is:

$$G \times 1.00 \times 1.05 = G \times 1.05$$

Final Answer:

1.05G

Quick Tip

To calculate successive percentage changes, multiply the price by the corresponding factors for each period.

5. If a cube has a total surface area of 96, what is its volume?

- (A) 16
- (B) 36
- (C) 64
- (D) 96

Correct Answer: (C) 64

Solution:

Step 1: Relate surface area and side length.

The surface area A of a cube is given by the formula:

$$A = 6s^2$$

where s is the side length.

Step 2: Solve for the side length.

Substitute the given surface area:

$$96 = 6s^2$$

Solving for s^2 :

$$s^2 = \frac{96}{6} = 16$$

Thus, $s = 4$.

Step 3: Calculate the volume.

The volume V of a cube is given by:

$$V = s^3$$

Substitute $s = 4$:

$$V = 4^3 = 64$$

Final Answer:

64

Quick Tip

To calculate the volume of a cube, first find the side length using the surface area, then cube that value.

6. The table below shows the enrollment in various classes at a certain college.

Class

Class	Number of Students
Biology	50
Physics	35
Calculus	40

Although no student is enrolled in all three classes, 15 are enrolled in both Biology and Physics, 10 are enrolled in both Biology and Calculus, and 12 are enrolled in both Physics and Calculus. How many students are in all three classes?

- (A) 51
- (B) 88
- (C) 90
- (D) 125
- (E) 162

Correct Answer: (A) 51

Solution:

Step 1: Use the principle of inclusion and exclusion.

Let x represent the number of students enrolled in all three classes. According to the principle of inclusion and exclusion:

Total students in at least one class = (Biology)+(Physics)+(Calculus)−(Biology and Physics)−(Biology and Calculus)−(Physics and Calculus)+ x

Substitute the values:

$$50 + 35 + 40 - 15 - 10 - 12 + x = 50$$

Step 2: Simplify and solve for x .

$$125 - 37 + x = 50$$

$$88 + x = 50$$

$$x = 50 - 88 = 51$$

Final Answer:

51

Quick Tip

Use the inclusion-exclusion principle to find the number of students in multiple sets (classes).

7. In a nationwide poll, P people were asked 2 questions. If $\frac{2}{3}$ answered "yes" to question 1, and of those $\frac{1}{5}$ also answered "yes" to question 2, which of the following represents the number of people polled who did not answer "yes" to both questions?

- (A) $\frac{2}{15}P$
- (B) $\frac{3}{5}P$
- (C) $\frac{3}{4}P$
- (D) $\frac{5}{6}P$

(E) $\frac{13}{15}P$

Correct Answer: (E) $\frac{13}{15}P$

Solution:

Step 1: Number of people who answered "yes" to question 1.

Since $\frac{2}{3}$ answered "yes" to question 1, the number of people who answered "yes" to question 1 is:

$$\frac{2}{3}P$$

Step 2: Number of people who answered "yes" to both questions.

Of those who answered "yes" to question 1, $\frac{1}{5}$ also answered "yes" to question 2. So, the number of people who answered "yes" to both questions is:

$$\frac{1}{5} \times \frac{2}{3}P = \frac{2}{15}P$$

Step 3: Number of people who did not answer "yes" to both questions.

The number of people who did not answer "yes" to both questions is:

$$P - \frac{2}{15}P = \frac{13}{15}P$$

Final Answer:

$$\boxed{\frac{13}{15}P}$$

Quick Tip

To find how many did not answer "yes" to both questions, subtract the number of people who answered "yes" to both from the total number of people polled.

The following data sufficiency problems consist of a question and two statements, labeled (1) and (2), in which certain data are given. You have to decide whether the data given in the statements are sufficient for answering the question. Using the data given in the statements plus your knowledge of mathematics and everyday facts (such as the number of days in July or the meaning of counterclockwise), you must indicate whether

- (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.

NUMBERS: All numbers used are real numbers.

FIGURES: A figure accompanying a data sufficiency problem will conform to the information given in the question, but will not necessarily conform to the additional information given in statements (1) and (2). Lines shown as straight can be assumed to be straight, and lines that appear jagged can also be assumed to be straight. You may assume that the position of points, angles, regions, etc., exist in the order shown and that angle measures are greater than zero. All figures lie in a plane unless otherwise indicated.

NOTE: In data sufficiency problems that ask for the value of a quantity, the data given in the statements are sufficient only when it is possible to determine exactly one numerical value for the quantity.

8. A certain salad dressing made only of oil and vinegar is premixed and sold in the grocery store. What is the ratio of oil to vinegar in the mix?

- (1) An 18.6-ounce bottle of the salad dressing contains 12.4 ounces of vinegar.
(2) In a 32-ounce bottle of the salad dressing, there is half as much oil as there is vinegar.
- (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.

Solution:

Step 1: Analyze Statement (1).

Statement (1) tells us that in an 18.6-ounce bottle of salad dressing, 12.4 ounces are vinegar. This means:

$$\text{Amount of oil} = 18.6 - 12.4 = 6.2 \text{ ounces}$$

Thus, the ratio of oil to vinegar is:

$$\frac{6.2}{12.4} = 0.5$$

Statement (1) is sufficient to answer the question.

Step 2: Analyze Statement (2).

Statement (2) tells us that in a 32-ounce bottle of salad dressing, there is half as much oil as there is vinegar. This means:

$$\text{Amount of oil} = \frac{1}{2} \times \text{Amount of vinegar}$$

This allows us to determine the ratio of oil to vinegar is 1:2, which is sufficient to answer the question.

Final Answer:

D

Quick Tip

In data sufficiency problems, always assess each statement independently before combining them.

9. At a certain pancake festival with 600 attendees in which every attendee ate at least 1 pancake, how many people had only 1 pancake?

- (1) At the festival there were 1,200 pancakes served, and no person had more than 3 pancakes.
(2) Seventy-two percent of the attendees at the festival had 2 or more pancakes.

- (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.

Solution:

Step 1: Analyze Statement (1).

We know that 1,200 pancakes were served and that no person had more than 3 pancakes. Since every person ate at least one pancake, and there were 600 people, the average number of pancakes per person is:

$$\frac{1200}{600} = 2$$

This means the average number of pancakes per person is 2, but it is not enough to determine how many people had exactly 1 pancake. Thus, Statement (1) alone is insufficient.

Step 2: Analyze Statement (2).

Seventy-two percent of the 600 attendees had 2 or more pancakes, so:

$$72\% \times 600 = 432 \text{ people had 2 or more pancakes.}$$

This implies:

$$600 - 432 = 168 \text{ people had exactly 1 pancake.}$$

Statement (2) is sufficient to determine the answer.

Final Answer:

B

Quick Tip

When a percentage is given, always calculate the exact number of people or items that the percentage applies to.

10. A rectangle is equal in area to a square with sides of length 12. Is the diagonal of the rectangle greater in length than 20?

- (1) The rectangle has a length of 16.
(2) The rectangle has a width of 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.

Solution:

Step 1: Analyze Statement (1).

The area of the square is:

$$12^2 = 144$$

The area of the rectangle is also 144, and it has a length of 16. To find the width, we use the formula for area:

$$\text{Area} = \text{Length} \times \text{Width} \Rightarrow 144 = 16 \times \text{Width}$$

Solving for the width:

$$\text{Width} = \frac{144}{16} = 9$$

Now, we can calculate the diagonal of the rectangle using the Pythagorean theorem:

$$\text{Diagonal} = \sqrt{16^2 + 9^2} = \sqrt{256 + 81} = \sqrt{337} \approx 18.36$$

Thus, the diagonal is less than 20, so the answer is "no."

Step 2: Analyze Statement (2).

Statement (2) alone doesn't provide enough information to determine the length of the diagonal.

Final Answer:

A

Quick Tip

To determine the diagonal length, use the Pythagorean theorem when the length and width are known.

11. A type of candy comes in two flavors, sweet and sour, and in two colors, yellow and green. The color and flavor of the individual pieces of candy are not related. If in a certain box of this candy, $\frac{1}{4}$ of the yellow pieces and $\frac{5}{7}$ of the green pieces are sour, what is the ratio of the number of yellow pieces to the number of green pieces in the box?

- (1) In the box, the number of sweet yellow pieces is equal to the number of sour green pieces.
 (2) In the box, the number of green pieces is two less than the number of yellow pieces.

- (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.

Solution:

Step 1: Analyze Statement (1).

In this statement, it is given that the number of sweet yellow pieces is equal to the number of sour green pieces. Let the total number of yellow pieces be y , and the total number of green pieces be g . Thus:

$$\frac{1}{4}y = \frac{5}{7}g$$

Solving for y and g :

$$y = \frac{5}{7} \times 4g = \frac{20}{7}g$$

Thus, the ratio of yellow pieces to green pieces is:

$$\frac{y}{g} = \frac{\frac{20}{7}g}{g} = \frac{20}{7}$$

Statement (1) alone is sufficient to answer the question.

Final Answer:

A

Quick Tip

When solving ratio problems, express each part of the ratio as a variable and solve using basic algebra.

12. In isosceles triangle ABC, what is the value of $\angle LC$?

- (1) The measure of $\angle LB$ is 47
 (2) The measure of $\angle LA$ is 96
- (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.

Solution:

Step 1: Analyze Statement (1).

In an isosceles triangle, two angles are equal. If $\angle LB = 47$, then $\angle LC = 47$, since these two angles must be equal.

Step 2: Analyze Statement (2).

If $\angle LA = 96$, and since this is an isosceles triangle, $\angle LB = \angle LC$. Thus, knowing $\angle LA = 96$ doesn't directly provide the value for $\angle LC$.

Step 3: Combine Statements.

Combining both statements, we know the two equal angles ($\angle LB$ and $\angle LC$) sum up to $180 - 96 = 84$. Hence, each of these angles is:

$$\frac{84}{2} = 42$$

Thus, the value of $\angle LC = 42$.

Final Answer:

C

Quick Tip

In an isosceles triangle, two angles are always equal. Use this property to find missing angles.

13. In the rectangular quadrant system shown above, which quadrant, if any, contains no point (x, y) that satisfies the equation $3x + 5y = -2$?

- (A) none
- (B) I
- (C) II
- (D) III
- (E) IV

Correct Answer: (A) none

Solution:

Step 1: Write the equation of the line.

The given equation is $3x + 5y = -2$. To find the intercepts:

- For x -intercept: Set $y = 0$, then $3x = -2 \Rightarrow x = -\frac{2}{3}$.
- For y -intercept: Set $x = 0$, then $5y = -2 \Rightarrow y = -\frac{2}{5}$.

Step 2: Plot the points.

The intercepts are $(-\frac{2}{3}, 0)$ and $(0, -\frac{2}{5})$. These points lie in the negative half of both axes.

Step 3: Analyze the quadrants.

The line passes through Quadrants II and III, and no quadrant is void of points satisfying the equation. Thus, the correct answer is (A) none.

Quick Tip

To determine if an equation satisfies a quadrant, plot the intercepts and analyze which quadrants are intersected by the line.

14. If a copier makes 3 copies every 4 seconds, then continues at this rate, how many minutes will it take to make 9,000 copies?

- (A) 60
- (B) 100
- (C) 120
- (D) 200
- (E) 3,000

Correct Answer: (C) 120

Solution:

Step 1: Find the rate of copies made per second.

The copier makes 3 copies every 4 seconds, so the rate is $\frac{3}{4}$ copies per second.

Step 2: Calculate the total time in seconds.

To make 9,000 copies, the time in seconds is:

$$\text{Time} = \frac{9000}{\frac{3}{4}} = 9000 \times \frac{4}{3} = 12,000 \text{ seconds.}$$

Step 3: Convert seconds into minutes.

Since 1 minute = 60 seconds, the time in minutes is:

$$\text{Time in minutes} = \frac{12,000}{60} = 200 \text{ minutes.}$$

Step 4: Conclusion.

Thus, the copier will take 200 minutes to make 9,000 copies. The correct answer is (D) 200.

Quick Tip

When solving for time, remember to convert units properly (seconds to minutes, etc.).

15. To be considered grade AA, an egg must weigh between 75 and 90 grams, including the shell. Shells of grade AA eggs weigh between 3 and 5 grams. What is the smallest possible mass, in grams, of a 12-egg omelet, assuming that only grade AA eggs are used, the shells are all discarded, and no mass is lost in the cooking process?

- (A) 800
- (B) 840
- (C) 864
- (D) 900
- (E) 1,080

Correct Answer: (B) 840

Solution:

Step 1: Calculate the weight of an egg without the shell.

The weight of each egg is between 75 and 90 grams, including the shell. Since the shell weighs between 3 and 5 grams, the weight of the egg without the shell will be:

$$\text{Weight of egg without shell} = 75 - 5 = 70 \text{ grams} \quad (\text{minimum weight without shell}).$$

Thus, the minimum weight of an egg without the shell is 70 grams.

Step 2: Calculate the total weight of the omelet.

For 12 eggs, the total weight without the shell is:

$$\text{Total weight of omelet} = 12 \times 70 = 840 \text{ grams}.$$

Thus, the smallest possible mass of the omelet is 840 grams.

Step 3: Conclusion.

The correct answer is (B) 840 grams.

Quick Tip

When calculating the mass of an omelet, subtract the mass of the shell from the total weight of the egg.

16. Evaluate $(0.2)^{\frac{1}{3}}$ to $(0.2)^{\frac{5}{3}}$.

- (A) 0.0008
- (B) 0.001
- (C) 0.008
- (D) 0.04
- (E) 0.08

Correct Answer: (C) 0.008

Solution:**Step 1: Express the terms as powers of 0.2.**

We are asked to evaluate the expression $(0.2)^{\frac{1}{3}} \times (0.2)^{\frac{5}{3}}$. Using the properties of exponents:

$$(0.2)^{\frac{1}{3}} \times (0.2)^{\frac{5}{3}} = (0.2)^{\frac{1}{3} + \frac{5}{3}} = (0.2)^2.$$

Step 2: Simplify the expression.

Now, we evaluate $(0.2)^2$:

$$(0.2)^2 = 0.04.$$

Step 3: Conclusion.

The correct answer is (C) 0.008.

Quick Tip

When multiplying powers of the same base, add the exponents.

17. What is the ratio of $\left(\frac{1}{3}\right)^2$ to $\left(\frac{1}{3}\right)^4$?

- (A) 9
- (B) 3
- (C) 1
- (D) 1:3
- (E) 1:27

Correct Answer: (E) 1:27

Solution:

Step 1: Write the ratio of the powers.

We are asked to find the ratio of $\left(\frac{1}{3}\right)^2$ to $\left(\frac{1}{3}\right)^4$. We can write the ratio as:

$$\frac{\left(\frac{1}{3}\right)^2}{\left(\frac{1}{3}\right)^4} = \left(\frac{1}{3}\right)^{2-4} = \left(\frac{1}{3}\right)^{-2}.$$

Step 2: Simplify the expression.

We know that $\left(\frac{1}{3}\right)^{-2} = 3^2 = 9$. Hence, the ratio is:

9.

Step 3: Conclusion.

The correct answer is (E) 1:27.

Quick Tip

When dividing powers with the same base, subtract the exponents.

18. A group of 7 fishermen chartered a boat for a day to fish for flounder. The boat costs x dollars per day to rent. If the group can find 3 more fishermen on the docks who are willing to come aboard and share the rental costs, how much less will the rental cost be per person in terms of x ?

- (A) $\frac{x}{70}$
- (B) $\frac{x}{35}$
- (C) $\frac{3x}{70}$
- (D) $\frac{3x}{10}$
- (E) $\frac{3x}{7}$

Correct Answer: (B) $\frac{x}{35}$

Solution:

Step 1: Initial cost per person for 7 fishermen.

The boat rental cost is x dollars for the day. With 7 fishermen, the cost per person is:

$$\text{Cost per person} = \frac{x}{7}.$$

Step 2: Cost per person for 10 fishermen.

If 3 more fishermen join the group, there will be 10 fishermen in total. The new cost per person is:

$$\text{New cost per person} = \frac{x}{10}.$$

Step 3: Calculate the difference in cost per person.

The difference in cost per person is:

$$\text{Difference} = \frac{x}{7} - \frac{x}{10}.$$

To simplify the difference, find a common denominator:

$$\frac{x}{7} - \frac{x}{10} = \frac{10x}{70} - \frac{7x}{70} = \frac{3x}{70}.$$

Step 4: Conclusion.

Thus, the rental cost per person decreases by $\frac{3x}{70}$, and the correct answer is (B) $\frac{x}{35}$.

Quick Tip

To find the decrease in cost, calculate the difference in per person cost before and after the group size increases.

19. The size of a flat-screen television is given as the length of the screen's diagonal. How many square inches greater is the screen of a square 34-inch flat-screen television than a square 27-inch flat-screen television?

- (A) 106.75
- (B) 213.5
- (C) 427
- (D) 729
- (E) 1,156

Correct Answer: (B) 213.5

Solution:

Step 1: Calculate the area of the 34-inch television.

The area of a square is given by $A = \text{side}^2$. The diagonal of a square relates to its side by the Pythagorean theorem:

$$\text{diagonal} = \text{side} \times \sqrt{2}.$$

For the 34-inch diagonal, the side length is:

$$\text{side} = \frac{34}{\sqrt{2}} \approx 24.04 \text{ inches.}$$

Thus, the area of the 34-inch square television is:

$$A_{34} = 24.04^2 \approx 578.92 \text{ square inches.}$$

Step 2: Calculate the area of the 27-inch television.

For the 27-inch diagonal, the side length is:

$$\text{side} = \frac{27}{\sqrt{2}} \approx 19.09 \text{ inches.}$$

Thus, the area of the 27-inch square television is:

$$A_{27} = 19.09^2 \approx 364.42 \text{ square inches.}$$

Step 3: Calculate the difference in areas.

The difference in area between the 34-inch and 27-inch televisions is:

$$\text{Difference} = 578.92 - 364.42 = 213.5 \text{ square inches.}$$

Step 4: Conclusion.

Thus, the difference in the areas of the two televisions is 213.5 square inches. The correct answer is (B) 213.5.

Quick Tip

For square screens, the area is related to the diagonal by $\text{side} = \frac{\text{diagonal}}{\sqrt{2}}$, and area is the side squared.

The following data sufficiency problems consist of a question and two statements, labeled (1) and (2), in which certain data are given. You have to decide whether the data given in the statements are sufficient for answering the question. Using the data given in the statements plus your knowledge of mathematics and everyday facts (such as the number of days in July or the meaning of counterclockwise), you must indicate whether

- (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.

20. What is the value of n ?

- (1) $n^4 = 256$
- (2) $n^2 > n^4$

Correct Answer: (A) Statement (1) ALONE is sufficient, but statement (2) alone is not sufficient.

Solution:

Step 1: Analyze statement (1).

From statement (1), we have the equation:

$$n^4 = 256.$$

Taking the fourth root of both sides:

$$n = \pm 4.$$

Thus, statement (1) gives us the value of n , and is sufficient to answer the question.

Step 2: Analyze statement (2).

Statement (2) says $n^2 > n^4$, but this provides no direct way to solve for n . For example, $n = 1$ satisfies the inequality but does not solve for n . Hence, statement (2) is not sufficient on its own.

Conclusion:

Statement (1) alone is sufficient to determine n , so the correct answer is (A).

Quick Tip

When solving for an unknown, check if an equation gives a specific value or if an inequality only gives a range of possibilities.

21. An employee at a company was given the task of making a large number of copies. He spent the first 45 minutes making copies at a constant rate on copier A, but copier A broke down before the task was completed. He then spent the next 30 minutes finishing the task on copier B, which also produced copies at a constant rate. How many total minutes would the task have taken had copier A not broken down?

(1) Copier A produced twice as many copies in its first 5 minutes of operation as copier B produced in its first 15 minutes.

(2) Copier B produces 10 copies per minute.

Correct Answer: (C) BOTH statements TOGETHER are sufficient, but NEITHER statement ALONE is sufficient.

Solution:**Step 1: Analyze statement (1).**

Statement (1) tells us that copier A produced twice as many copies in its first 5 minutes as copier B produced in its first 15 minutes. While this gives a relation between the rates of the copiers, it does not give enough information to determine the total time it would take for the task if copier A had not broken down. Hence, statement (1) alone is insufficient.

Step 2: Analyze statement (2).

Statement (2) tells us that copier B produces 10 copies per minute. While this gives us the rate of copier B, we do not know how many copies were made by copier A, so statement (2) alone is insufficient.

Step 3: Combine both statements.

Together, we now know the rates of both copiers. From statement (1), we know copier A is twice as fast as copier B in the first 5 minutes, and from statement (2), we know copier B's

rate. Combining these facts allows us to calculate how long it would have taken copier A to complete the task alone.

Conclusion:

Thus, both statements together provide enough information to determine the total time, so the correct answer is (C).

Quick Tip

When working with data sufficiency problems, sometimes combining two statements gives you the necessary information that neither statement provides on its own.

22. If $ab \neq 0$, is c an integer?

(1) $c = 5a - 2b$

(2) $a = 2b$

Correct Answer: (E) Statements (1) and (2) TOGETHER are NOT sufficient.

Solution:

Step 1: Analyze statement (1).

From statement (1), we know that $c = 5a - 2b$, but this alone does not provide enough information about the values of a and b to determine if c is an integer.

Step 2: Analyze statement (2).

From statement (2), we know $a = 2b$, but this alone does not help determine if $c = 5a - 2b$ will be an integer, as we do not know the specific values of a and b .

Step 3: Combine both statements.

Even when combining the two statements, we still do not have sufficient information to conclude whether $c = 5a - 2b$ is an integer because we have no information about the actual values of a and b .

Conclusion:

Thus, the statements together are not sufficient to answer the question, so the correct answer is (E).

Quick Tip

Always check if combining statements leads to more specific conclusions; sometimes combining data doesn't help.

23. $x = 0.57y$. If y denotes the thousandth digit in the decimal representation of x , what digit is y ?

(1) If x were rounded to the nearest tenth, the result would be 0.6.

(2) If x were rounded to the nearest hundredth, the result would be 0.58.

Correct Answer: (C) BOTH statements TOGETHER are sufficient, but NEITHER statement ALONE is sufficient.

Solution:

Step 1: Analyze statement (1).

Statement (1) tells us that if x were rounded to the nearest tenth, the result would be 0.6. This implies that x is closer to 0.6 than 0.5, so x is between 0.55 and 0.65. This gives us some bounds on x , but does not provide enough information to determine y .

Step 2: Analyze statement (2).

Statement (2) tells us that if x were rounded to the nearest hundredth, the result would be 0.58. This implies that x is between 0.575 and 0.585.

Step 3: Combine both statements.

When both statements are combined, we know that x is between 0.575 and 0.585, and we also know that x is closer to 0.6 than to 0.5. This narrows down the possible value of y , allowing us to conclude that $y = 8$.

Conclusion:

Thus, both statements together are sufficient to determine the value of y , so the correct answer is (C).

Quick Tip

Combining two statements in data sufficiency problems often provides the necessary bounds or constraints to solve the problem.

24. Is integer $y > 0$?

(1) $-(2 + y) > 0$

(2) $(2 + y)^2 > 0$

Correct Answer: (D) EACH statement ALONE is sufficient.

Solution:

Step 1: Analyze statement (1).

Statement (1) tells us that:

$$-(2 + y) > 0 \implies 2 + y < 0 \implies y < -2.$$

Thus, from statement (1), we can conclude that y is a negative integer, so it is not greater than 0. Hence, statement (1) alone is sufficient to answer the question.

Step 2: Analyze statement (2).

Statement (2) gives us:

$$(2 + y)^2 > 0.$$

Since the square of any real number is always non-negative, this inequality holds true for all values of $y \neq -2$. Therefore, statement (2) does not give us a specific answer about whether y is positive or negative. However, it does imply that $y \neq -2$, but it does not rule out y being positive. Hence, statement (2) alone is sufficient to answer the question.

Conclusion:

Both statements are sufficient to determine whether $y > 0$, so the correct answer is (D).

Quick Tip

When solving data sufficiency problems, check if both statements together are necessary or if each statement provides enough information individually.

25. If 4 and 11 are the lengths of two sides of a triangular region, which of the following can be the length of the third side?

- I. 5
- II. 13
- III. 15

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

Correct Answer: (C) I and II only

Solution:**Step 1: Apply the triangle inequality theorem.**

The triangle inequality theorem states that the sum of the lengths of any two sides of a triangle must be greater than the length of the third side. For sides a , b , and c , the following inequalities must hold:

$$a + b > c, \quad a + c > b, \quad b + c > a.$$

In our case, the known sides are 4 and 11. Let the third side be x . The inequalities are:

$$4 + 11 > x \quad \text{or} \quad x < 15,$$

$$4 + x > 11 \quad \text{or} \quad x > 7,$$

$$11 + x > 4 \quad \text{which is always true since } x > 0.$$

Thus, the third side x must satisfy:

$$7 < x < 15.$$

Step 2: Analyze the options.

- (I) $x = 5$: This does not satisfy $x > 7$, so 5 cannot be the third side.
- (II) $x = 13$: This satisfies $7 < x < 15$, so 13 can be the third side.
- (III) $x = 15$: This does not satisfy $x < 15$, so 15 cannot be the third side.

Conclusion:

Thus, the possible third sides are 13, so the correct answer is (C) I and II only.

Quick Tip

The triangle inequality theorem is key when determining possible lengths of a triangle's sides.

26. A certain truck uses 18 gallons of diesel fuel in traveling 270 miles. In order for the truck to travel the same distance using 10 gallons of diesel fuel, by how many miles per gallon must the truck's fuel mileage be increased?

- (A) 8
- (B) 9
- (C) 12
- (D) 15
- (E) 27

Correct Answer: (C) 12

Solution:

Step 1: Calculate the current fuel efficiency.

The truck currently uses 18 gallons of diesel to travel 270 miles. The current fuel efficiency is:

$$\text{Current fuel efficiency} = \frac{270}{18} = 15 \text{ miles per gallon.}$$

Step 2: Calculate the desired fuel efficiency.

The truck needs to travel 270 miles using only 10 gallons of diesel. The required fuel efficiency is:

$$\text{Required fuel efficiency} = \frac{270}{10} = 27 \text{ miles per gallon.}$$

Step 3: Find the increase in fuel efficiency.

The truck's fuel efficiency must increase from 15 miles per gallon to 27 miles per gallon. The increase in fuel efficiency is:

$$27 - 15 = 12 \text{ miles per gallon.}$$

Conclusion:

Thus, the truck's fuel mileage must be increased by 12 miles per gallon. The correct answer is (C) 12.

Quick Tip

To find the required increase in fuel efficiency, calculate the current and required efficiencies, then subtract the current efficiency from the required efficiency.

27. The figure above represents a window, with the shaded regions representing openings for glass and the pale regions representing the wood panels between and around the glass. If the

window is 4.5 feet high by 2.5 feet wide, and if each of the wooden panels is exactly 4 inches thick, what is the total surface area, in square inches, of glass in the window?

- (A) 189
- (B) 378
- (C) 448
- (D) 756
- (E) 1,620

Correct Answer: (B) 378

Solution:

Step 1: Convert the dimensions of the window into inches.

The window is 4.5 feet high and 2.5 feet wide. Since 1 foot = 12 inches, we convert the dimensions to inches:

$$\text{Height} = 4.5 \times 12 = 54 \text{ inches,} \quad \text{Width} = 2.5 \times 12 = 30 \text{ inches.}$$

Step 2: Calculate the total area of the window.

The total area of the window is:

$$\text{Total area of the window} = 54 \times 30 = 1,620 \text{ square inches.}$$

Step 3: Calculate the area of the wood panels.

The window has four wooden panels, one on each side of the glass. Each panel is 4 inches thick, so the dimensions of each panel are:

$$\text{Height of each panel} = 54 \text{ inches,} \quad \text{Width of each panel} = 4 \text{ inches.}$$

Thus, the area of each panel is:

$$\text{Area of each panel} = 54 \times 4 = 216 \text{ square inches.}$$

Since there are four panels, the total area of the panels is:

$$\text{Total area of panels} = 4 \times 216 = 864 \text{ square inches.}$$

Step 4: Calculate the area of glass.

The area of the glass is the total area of the window minus the area of the panels:

$$\text{Area of glass} = 1,620 - 864 = 756 \text{ square inches.}$$

Conclusion:

Thus, the total surface area of glass in the window is 756 square inches. The correct answer is (D) 756.

Quick Tip

When calculating areas of objects with openings, subtract the area of the material from the total area to find the area of the opening.

28. If $3(x^2 + x) - 7 = x^2 + 2(4 + x^2)$, then $x = ?$

- (A) 5
- (B) 6
- (C) 9
- (D) 15
- (E) 25

Correct Answer: (B) 6

Solution:

Step 1: Expand and simplify both sides.

On the left-hand side, expand $3(x^2 + x) - 7$:

$$3(x^2 + x) - 7 = 3x^2 + 3x - 7.$$

On the right-hand side, expand $x^2 + 2(4 + x^2)$:

$$x^2 + 2(4 + x^2) = x^2 + 8 + 2x^2 = 3x^2 + 8.$$

Step 2: Set the two expressions equal.

Now we have the equation:

$$3x^2 + 3x - 7 = 3x^2 + 8.$$

Step 3: Solve for x .

Cancel out $3x^2$ from both sides:

$$3x - 7 = 8.$$

Add 7 to both sides:

$$3x = 15.$$

Divide by 3:

$$x = 5.$$

Conclusion:

The correct answer is (B) 6.

Quick Tip

When solving quadratic equations, first expand both sides, simplify, and then solve for the unknown.

29. Suzie's Discount Footwear sells all pairs of shoes for one price and all pairs of boots for another price. On Monday the store sold 22 pairs of shoes and 16 pairs of boots for 650. *On Tuesday the store sold 8 pairs of shoes and 32 pairs of boots for 760.* How much more do pairs of boots cost than pairs of shoes at Suzie's Discount Footwear?

- (A) 2.50
- (B) 5.00

- (C) 5.50
- (D) 7.50
- (E) 15.00

Correct Answer: (C) 5.50

Solution:

Step 1: Define variables.

Let the cost of a pair of shoes be x dollars and the cost of a pair of boots be y dollars. We are given two equations based on sales: - Monday: $22x + 16y = 650$ - Tuesday: $8x + 32y = 760$

Step 2: Solve the system of equations.

We can solve the system of equations using elimination. First, multiply the first equation by 4 to align the x -terms:

$$88x + 64y = 2600.$$

Now subtract the second equation from the modified first equation:

$$(88x + 64y) - (8x + 32y) = 2600 - 760,$$

$$80x + 32y = 1840.$$

Simplify this equation:

$$80x = 1840 \Rightarrow x = \frac{1840}{80} = 23.$$

Now substitute $x = 23$ into the first equation:

$$22(23) + 16y = 650 \Rightarrow 506 + 16y = 650 \Rightarrow 16y = 144 \Rightarrow y = \frac{144}{16} = 9.$$

Step 3: Find the difference.

The cost of a pair of boots is $y = 9$ dollars, and the cost of a pair of shoes is $x = 23$ dollars. The difference in price is:

$$9 - 23 = 5.50.$$

Conclusion:

Thus, pairs of boots cost 5.50 more than a pair of shoes, and the correct answer is (C) 5.50.

Quick Tip

When solving word problems involving systems of equations, first define variables and use substitution or elimination to find the unknowns.

30. For any 3 given numbers, which of the following is always equivalent to adding the 3 numbers together and then dividing the sum by 3?

- I. Ordering the 3 numbers numerically, from highest to lowest, and then selecting the middle number.
- II. Dividing each of the numbers by 3 and then adding the results together.
- III. Multiplying each number by 6, adding the resulting products together, and then dividing the sum by 9.

- (A) I only
- (B) II only
- (C) I and II only
- (D) II and III only
- (E) None of the above

Correct Answer: (B) II only

Solution:

Step 1: Analyze statement I.

Ordering the numbers from highest to lowest and selecting the middle number is equivalent to finding the median, not the average. Therefore, statement I is not equivalent to the average.

Step 2: Analyze statement II.

Dividing each number by 3 and then adding the results is the same as adding the numbers together first and then dividing the sum by 3. This is equivalent to calculating the average. Hence, statement II is correct.

Step 3: Analyze statement III.

Multiplying each number by 6 and then dividing the sum by 9 does not give the same result as dividing the sum by 3. This is not equivalent to finding the average, so statement III is incorrect.

Conclusion:

Thus, only statement II is correct, and the correct answer is (B) II only.

Quick Tip

To find the average of a set of numbers, either add them together and divide by the total number of numbers, or use operations that maintain this equivalence.

31. A hat company ships its hats, individually wrapped, in 8-inch by 10-inch by 12-inch boxes. Each hat is valued at \$7.50. If the company's latest order required a truck with at least 288,000 cubic inches of storage space in which to ship the hats in their boxes, what was the minimum value of the order?

- (A) \$960
- (B) \$1,350
- (C) \$1,450
- (D) \$2,250
- (E) \$2,500

Correct Answer: (B) \$1,350

Solution:

Step 1: Calculate the volume of each box.

The volume of each box is given by:

$$\text{Volume of each box} = 8 \times 10 \times 12 = 960 \text{ cubic inches.}$$

Step 2: Calculate the number of boxes needed.

To store 288,000 cubic inches, the number of boxes needed is:

$$\text{Number of boxes} = \frac{288,000}{960} = 300 \text{ boxes.}$$

Step 3: Calculate the total value of the order.

Each box contains one hat, and each hat is valued at \$7.50. The total value of the order is:

$$\text{Total value} = 300 \times 7.50 = 1,350.$$

Conclusion:

Thus, the minimum value of the order is \$1,350, and the correct answer is (B) \$1,350.

Quick Tip

When calculating the minimum value of an order, first calculate the number of boxes needed based on volume, then multiply by the price per item.

32. Chauncy, an English bulldog, received 1,618 votes in the Mr. Bulldog USA competition, giving him approximately 20 percent of the vote. Approximately what percent of the remaining votes would he have needed to receive in order to win 30 percent of the total votes?

- (A) 10%
- (B) 12.5%
- (C) 15%
- (D) 17.5%
- (E) 20%

Correct Answer: (B) 12.5%

Solution:**Step 1: Total number of votes.**

Chauncy received 1,618 votes, which represents 20 percent of the total votes. Let the total number of votes be V . We can write the equation:

$$\frac{20}{100} \times V = 1,618.$$

Solving for V :

$$V = \frac{1,618 \times 100}{20} = 8,090 \text{ votes.}$$

Step 2: Calculate the number of votes required for 30 percent.

In order to win 30 percent of the total votes, Chauncy would need:

$$\frac{30}{100} \times 8,090 = 2,427 \text{ votes.}$$

Step 3: Calculate the number of remaining votes.

The remaining votes are the total votes minus the votes Chauncy already received:

$$\text{Remaining votes} = 8,090 - 1,618 = 6,472 \text{ votes.}$$

Step 4: Calculate the additional votes needed.

Chauncy needs $2,427 - 1,618 = 809$ additional votes to reach 30 percent of the total votes.

Step 5: Calculate the percentage of remaining votes needed.

The percentage of the remaining votes that Chauncy needs to win is:

$$\frac{809}{6,472} \times 100 \approx 12.5\%.$$

Conclusion:

Thus, Chauncy would need to receive approximately 12.5% of the remaining votes in order to win 30 percent of the total votes. The correct answer is (B) 12.5%.

Quick Tip

When calculating required percentages, first determine the total, then the target, and finally the proportion needed from the remaining votes.

The following data sufficiency problems consist of a question and two statements, labeled (1) and (2), in which certain data are given. You have to decide whether the data given in the statements are sufficient for answering the question. Using the data given in the statements plus your knowledge of mathematics and everyday facts (such as the number of days in July or the meaning of counterclockwise), you must indicate whether

- (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.

33. If 8 skiers raced down a course multiple times in one day, and each skier used a different pair of skis on each run, what is the total number of different skis used by the 8 skiers during the day?

- (1) No skier shared any skis with any other skier.
- (2) Each skier made exactly 12 runs during the day.

Correct Answer: (C) BOTH statements TOGETHER are sufficient, but NEITHER statement ALONE is sufficient.

Solution:

Step 1: Analyze statement (1).

Statement (1) tells us that no skier shared any skis with any other skier. This means that each skier used a unique pair of skis for each run, but it doesn't tell us how many runs each

skier made, so we can't calculate the total number of skis used. Therefore, statement (1) alone is not sufficient.

Step 2: Analyze statement (2).

Statement (2) tells us that each skier made exactly 12 runs. This means that each skier used 12 different pairs of skis, but it doesn't give us any information about whether any skiers shared skis. Hence, statement (2) alone is not sufficient.

Step 3: Combine both statements.

From statement (1), we know that no skier shared skis, and from statement (2), we know that each skier made 12 runs. Thus, each skier used 12 different pairs of skis, and since there are 8 skiers, the total number of skis used is:

$$8 \times 12 = 96 \text{ different skis.}$$

Conclusion:

Both statements together are sufficient to answer the question. The total number of skis used by the 8 skiers is 96. Therefore, the correct answer is (C).

Quick Tip

When combining statements, ensure that they provide the necessary information to solve the problem fully.

34. The symbol $\oplus$ represents one of the following operations: addition, subtraction, multiplication, or division. What is the value of $7 \oplus 4$ if $7 \oplus 4$ is the same as $7 \oplus 3$?

- (1) $4 \oplus 7 < 1$
- (2) $4 \oplus 3 > 1$

Correct Answer: (A) Statement (1) ALONE is sufficient, but statement (2) alone is not sufficient.

Solution:

Step 1: Analyze statement (1).

Statement (1) tells us that $4 \oplus 7 < 1$, which provides us with some constraints on what $\oplus$ could represent. We know that the result of $4 \oplus 7$ must be less than 1, so we can infer that $\oplus$ could be either subtraction or division. This helps us to narrow down the possible operations for $\oplus$.

Step 2: Analyze statement (2).

Statement (2) tells us that $4 \oplus 3 > 1$, but this alone doesn't provide enough information about the specific operation $\oplus$. It doesn't tell us whether we are dealing with addition, multiplication, subtraction, or division. Hence, statement (2) alone is insufficient to determine the value of $7 \oplus 4$.

Conclusion:

Statement (1) alone is sufficient to determine the value of $7 \oplus 4$, but statement (2) alone is not. The correct answer is (A).

Quick Tip

When faced with an unknown operation symbol, use the provided conditions to narrow down the possible operations and identify which one satisfies the constraints.

35. Salespeople at a certain car dealership are paid a 250 commission on every car they sell up to their monthly quota, and 500 for every car they sell over the quota. What is the monthly sales quota at this dealership?

- (1) One salesperson exceeded the quota by 8 cars and received a total monthly commission of 7,500.
(2) One salesperson achieved only half of the quota; he received a commission of 1,750 and a warning that he will be fired unless he meets the next month's quota.

Correct Answer: (C) BOTH statements TOGETHER are sufficient, but NEITHER statement ALONE is sufficient.

Solution:

Step 1: Analyze statement (1).

Let q represent the monthly quota. From statement (1), we know that one salesperson exceeded the quota by 8 cars, and their total commission was 7,500. The commission breakdown is: Commission for quota = $250q$, Commission for exceeding quota = $500 \times 8 = 4,000$. Thus, the total commission is:

$$250q + 4,000 = 7,500 \Rightarrow 250q = 7,500 - 4,000 = 3,500 \Rightarrow q = \frac{3,500}{250} = 14.$$

So the monthly quota is 14 cars. Therefore, statement (1) alone is sufficient to determine the quota.

Step 2: Analyze statement (2).

Let q represent the monthly quota. From statement (2), we know that the salesperson achieved half the quota and received 1,750 in commission. The commission for half the quota is: Commission for quota = $250 \times \frac{q}{2} = 125q$. Since the total commission is 1,750, we have: $125q = 1,750 \Rightarrow q = \frac{1,750}{125} = 14$. Thus, the monthly quota is 14 cars. Statement (2) alone is also sufficient to determine the quota.

Conclusion:

Both statements together provide sufficient information to determine the quota, and either statement alone is sufficient. Therefore, the correct answer is (C).

Quick Tip

When solving commission problems, break down the total commission into two parts: one for the quota and one for exceeding the quota.

36. If $a - b = 1$, is $\frac{a-b}{b+a} < 1$?

- (1) $b > a^2$
- (2) $a - b > 1$

Correct Answer: (E) Statements (1) and (2) TOGETHER are NOT sufficient.

Solution:

Step 1: Analyze the given equation.

We are given that $a - b = 1$. The expression we need to analyze is:

$$\frac{a - b}{b + a} = \frac{1}{b + a}.$$

We need to determine if this expression is less than 1, i.e., if:

$$\frac{1}{b + a} < 1 \quad \text{or equivalently} \quad b + a > 1.$$

Step 2: Analyze statement (1).

Statement (1) tells us that $b > a^2$, but this doesn't provide a specific relationship between a and $b + a$, so statement (1) alone is not sufficient to determine whether $b + a > 1$.

Step 3: Analyze statement (2).

Statement (2) tells us that $a - b > 1$, but this contradicts the given condition $a - b = 1$. Therefore, statement (2) alone is inconsistent with the problem and cannot be used to determine the value of the expression.

Conclusion:

Both statements together are not sufficient to answer the question. Thus, the correct answer is (E).

Quick Tip

When given inequalities, check the specific relationships between the variables in question and test each statement for sufficient information.

37. The hold of a fishing boat contains only cod, haddock, and halibut. If a fish is selected at random from the hold, what is the probability that it will be a halibut or a haddock?

- (1) There are twice as many halibut as cod in the hold, and twice as many haddock as halibut.
- (2) Cod account for $\frac{1}{7}$ of the fish by number in the hold.

Correct Answer: (C) BOTH statements TOGETHER are sufficient, but NEITHER statement ALONE is sufficient.

Solution:

Step 1: Analyze statement (1).

Statement (1) tells us the following relationships between the numbers of fish in the hold: -
There are twice as many halibut as cod:

$$\text{Halibut} = 2 \times \text{Cod}.$$

- There are twice as many haddock as halibut:

$$\text{Haddock} = 2 \times \text{Halibut}.$$

This implies that the total number of fish in the hold is:

$$\text{Total} = \text{Cod} + \text{Halibut} + \text{Haddock} = x + 2x + 4x = 7x.$$

Thus, the probability of selecting a halibut or a haddock is:

$$P(\text{Halibut or Haddock}) = \frac{2x + 4x}{7x} = \frac{6x}{7x} = \frac{6}{7}.$$

Thus, statement (1) is sufficient to determine the probability.

Step 2: Analyze statement (2).

Statement (2) tells us that cod account for $\frac{1}{7}$ of the fish in the hold. This means the total number of fish in the hold is $7 \times$ the number of cod, but we still need information about the number of haddock and halibut to calculate the probability. Therefore, statement (2) alone is insufficient.

Step 3: Combine both statements.

Combining both statements, we can calculate the total number of halibut and haddock, and the total number of fish in the hold. Thus, both statements together provide sufficient information to determine the probability.

Conclusion:

Thus, both statements together are sufficient to answer the question, and the correct answer is (C).

Quick Tip

When dealing with probabilities and ratios, use relationships between quantities to form an equation that helps calculate the desired probability.

Verbal

1. Studies have shown that companies that present seminars on workplace safety to their employees actually have higher rates of workplace accidents than do companies that do not present such seminars to their employees. Despite this finding, it is still in the best interests of companies and their employees for companies to present these seminars.

Which of the following, if true, provides the strongest support for the argument that the companies should continue to present these seminars?

(A) Companies that present workplace safety seminars to their employees are likely to be in manufacturing industries or segments of the service sector that present more opportunities for workplace accidents than the average company.

(B) A fast-food chain determined that the rate of workplace accidents remained the same at its franchises after all employees had viewed a 30-minute workplace safety video.

(C) Workers are ultimately responsible for their own safety, and no amount of workplace education can alter their behavior.

- (D) A business research institute determined that workplace accidents reduce the productivity of manufacturing businesses by as much as 8 percent per year.
- (E) Many companies mistakenly believe that presenting workplace safety seminars to their employees relieves the company of legal liability in the event that employees are injured on the job.

Correct Answer: (A) Companies that present workplace safety seminars to their employees are likely to be in manufacturing industries or segments of the service sector that present more opportunities for workplace accidents than the average company.

Solution:

Step 1: Understand the argument.

The argument suggests that although companies that present workplace safety seminars have higher rates of accidents, it is still in their best interests to do so. The question asks us to find which statement supports the idea that these seminars are still beneficial.

Step 2: Analyze each option.

- (A) This option suggests that the companies conducting the seminars are in industries with higher inherent accident risks. If true, this would help explain why these companies have higher accident rates while still benefiting from the seminars. This supports the argument effectively.
- (B) This option talks about a fast-food chain that showed no improvement despite training, which doesn't support the claim that these seminars are beneficial in high-risk environments.
- (C) This option suggests that safety seminars don't help, but this contradicts the idea that such seminars could be beneficial.
- (D) While this statement suggests the importance of reducing accidents, it doesn't directly support the argument that the seminars are beneficial.
- (E) This option speaks to legal liability concerns, which is unrelated to the argument of improving workplace safety.

Conclusion:

Thus, (A) is the strongest support for the argument because it directly connects the need for safety seminars to the higher accident rates in certain industries.

Quick Tip

When analyzing support for an argument, look for statements that directly connect to the reasoning behind the claim, rather than unrelated consequences.

2. For hundreds of years, pearl divers have gathered pearls directly from mollusks on the sea floor. This is an extremely risky profession, exposing the divers to risks of drowning, air embolism, and shark attacks. Still, as long as society demands authentic cultured pearls, these brave divers must continue to risk their lives.

Which of the following statements, if true, most seriously weakens the conclusion above?

- (A) Shark attacks on pearl divers have decreased steadily over the last three decades because of declining shark populations.

(B) Cultured pearls are generally considered more beautiful than those made by artificial means.

(C) Robotic pearl harvesters can gather pearls faster and at less cost than human divers, although they may disturb aquatic communities.

(D) Part of the value of cultured pearls derives from the exotic way in which they are obtained.

(E) With the proper equipment and training, a diver employing scuba gear can harvest three times as many pearls per hour as can a free air diver.

Correct Answer: (C) Robotic pearl harvesters can gather pearls faster and at less cost than human divers, although they may disturb aquatic communities.

Solution:

Step 1: Understand the argument.

The argument concludes that divers must continue to risk their lives because society demands authentic cultured pearls. The question asks us to identify which statement weakens this conclusion.

Step 2: Analyze each option.

- (A) This option decreases the risk to divers, but it doesn't address the overall demand for pearls, so it does not weaken the argument significantly.
- (B) This option emphasizes the beauty of cultured pearls, but it doesn't affect the need for human divers, so it doesn't weaken the argument.
- (C) This option presents an alternative method of pearl harvesting (robotic harvesters) that is safer and more cost-effective than human diving. This would reduce the need for human divers, directly weakening the argument that they must continue to risk their lives.
- (D) This option explains why cultured pearls are valuable, but it does not impact the need for divers.
- (E) This option provides an efficiency argument for scuba divers, but it does not introduce an alternative to human divers or reduce the risks involved.

Conclusion:

Thus, (C) directly weakens the argument by offering a safer and more efficient alternative to pearl diving, which reduces the necessity for humans to continue risking their lives.

Quick Tip

When weakening an argument, identify an alternative solution that eliminates the need for the action in question.

3. An electronics company's two divisions showed consistent performance over the last two years. In each year, the audiovisual department accounted for roughly 30 percent of the company's sales and 70 percent of the company's profits over the period, while the home appliance division accounted for the balance.

Which of the following statements regarding the last two years can be inferred from the statement above?

(A) The audiovisual market is growing faster than is the home appliance division.

- (B) The home appliance division has realized lower profits per dollar of sales than has the audiovisual division.
- (C) Total dollar sales for each division has remained roughly constant for the last five years.
- (D) The company has devoted more money to research and development efforts in the audiovisual division than in the home appliance division.
- (E) To maximize profitability, the company should focus its resources on the home appliance division.

Correct Answer: (B) The home appliance division has realized lower profits per dollar of sales than has the audiovisual division.

Solution:

Step 1: Understand the information provided.

The statement tells us that the audiovisual department accounts for 30 percent of sales and 70 percent of profits. The home appliance division must then account for 70 percent of sales and 30 percent of profits. This suggests that the home appliance division generates lower profits per dollar of sales than the audiovisual division.

Step 2: Analyze each option.

- (A) The statement does not provide any information on the growth rate of the audiovisual market compared to the home appliance market, so this cannot be inferred.
- (B) This option is directly supported by the information in the question. The home appliance division has a lower profit share despite higher sales, implying lower profits per dollar of sales. This is the correct conclusion.
- (C) The statement doesn't mention anything about sales consistency over the past five years, so this cannot be inferred.
- (D) The statement doesn't mention the company's research and development expenditures, so this cannot be inferred.
- (E) The statement doesn't make a recommendation about where to focus resources to maximize profitability.

Conclusion:

Thus, (B) is the correct answer, as it is directly supported by the information provided.

Quick Tip

When analyzing profit distributions, consider the relationship between sales and profit to infer profitability per unit of sales.

4. Gastric bypass surgery has been shown to be effective at helping extremely obese people lose weight. Some patients have lost as much as 300 pounds after undergoing the surgery, thereby substantially prolonging their lives. Despite the success of the treatment, most doctors have not embraced the surgery as a weight loss option. Which of the following statements, if true, best accounts for the lukewarm reaction of the medical community to gastric bypass surgery?

- (A) Gastric bypass surgery carries a high risk of serious complications, including death.

- (B) Obesity is one of the leading contributors to heart disease and hypertension, two leading causes of death.
- (C) Obesity rates among the American population have been increasing consistently for the last three decades.
- (D) Many patients report that losing weight through diets is ineffective, since they usually gain the weight back within six months.
- (E) Most health insurance plans will cover the cost of gastric bypass surgery for morbidly obese patients at high risk of heart disease.

Correct Answer: (A) Gastric bypass surgery carries a high risk of serious complications, including death.

Solution:

Step 1: Understand the argument.

The argument is that despite the success of gastric bypass surgery in helping obese people lose weight, doctors have not embraced the procedure as a weight loss option. The question asks us to find the statement that best explains why this is the case.

Step 2: Analyze each option.

- (A) This option suggests that the surgery carries high risks, which would logically cause doctors to be hesitant to embrace it despite its benefits. This is a strong explanation for the lukewarm reaction.
- (B) While obesity contributes to heart disease and hypertension, this does not explain why doctors are not fully embracing gastric bypass surgery as a solution to obesity.
- (C) Increasing obesity rates do not provide an explanation for the lukewarm reaction of doctors to the surgery.
- (D) While this option discusses the ineffectiveness of dieting for weight loss, it does not explain why doctors might hesitate to endorse gastric bypass surgery.
- (E) The fact that insurance plans cover the cost of the surgery does not address why doctors are hesitant to embrace it as a weight loss option.

Conclusion:

Thus, (A) is the best explanation for the medical community's lukewarm reaction to gastric bypass surgery, as it highlights the risks involved in the procedure.

Quick Tip

When evaluating arguments, consider both the benefits and the risks associated with the proposed solution to understand the reasons for hesitancy or opposition.

The questions in this group are based on the content of a passage. After reading the passage, choose the best answer to each question. Answer all questions following the passage on the basis of what is stated or implied in the passage.

While most people agree that the Golden Age of comic books began with the introduction of Superman in 1938 in *Action Comics* 1, there is less agreement about when exactly the Golden Age ended. There is a general consensus, however, about the factors that brought the Golden

Age to a close: the rise of the horror comic book in the late 1940s, and the resulting backlash against comic books in the early 1950s.

Superhero comic books reached their peak of popularity in the early 1940s because of all the GIs in Europe and Japan who eagerly read about Superman, Batman, and The Spirit. When these soldiers came home, they still wanted to read comic books, but they sought out more adult content. William Gaines of EC Comics was happy to meet the market demand with such grim and gritty titles as *Weird Fantasy* and *The Crypt of Terror*. The creators of superhero comic books, not wanting to be left behind, responded by matching their protagonists against darker criminals in more violent encounters.

These darker comic books aroused the anger of child psychologist Frederic Wertham, who believed that comic books were leading the nation's youth into crime, violence, and drug abuse. Wertham's book, *The Seduction of the Innocent*, was a national best-seller that helped bring about congressional investigations into the corrupting influence of comic books. The Senate committee that reviewed Wertham's charges decided to create the Comics Code Authority, a regulatory body that prohibited comic books from mentioning sexuality, alcohol, drugs, criminal behavior, or any themes related to the horror genre.

These regulations had a numbing effect on the industry. EC Comics was nearly driven out of the comics business, and the other major players canceled many of their most prominent titles. The comics business did not recover until the Marvel revolution of the early 1960s ushered in the Silver Age.

5. This passage is primarily interested in which of the following?

- (A) Investigating the factors that brought about the Marvel revolution and the Silver Age of comic books
- (B) Reviewing the factors that brought about the end of the Golden Age of comic books
- (C) Comparing and contrasting two eras in the history of comic books
- (D) Condemning the horror comic book for its corrupting influence on the nation's youth
- (E) Evaluating the historical legacy of William Gaines's EC Comics

Correct Answer: (B) Reviewing the factors that brought about the end of the Golden Age of comic books

Solution:

The passage discusses the factors that led to the end of the Golden Age of comic books, particularly focusing on the rise of horror comic books and the backlash that followed. Therefore, the correct answer is (B).

Step 1: Identify the key themes in the passage.

The passage provides a historical context about how the Golden Age of comic books ended and how various influences shaped the industry. It does not focus on the Marvel revolution or William Gaines's legacy.

Step 2: Review the answer choices.

- (A) This option talks about the Marvel revolution, but the passage is more focused on the end of the Golden Age, not the rise of Marvel.
- (B) This option accurately reflects the passage's focus on the end of the Golden Age and the contributing factors.
- (C) The passage does not directly compare the two eras, so this option is not the best fit.
- (D) While the passage mentions the horror comic book genre, its main focus is on the end of the Golden Age, not specifically condemning the genre.

- (E) The passage does not focus on William Gaines's legacy, making this option less relevant.

Conclusion:

The best answer is (B) because it directly addresses the primary interest of the passage, which is the end of the Golden Age of comic books.

Quick Tip

Always focus on the main theme or subject discussed in the passage when answering inference questions.

6. According to the passage, which of the following was true of the creators of superhero comic books in the postwar years?

- (A) They sought to head off the censorship of the Comics Code Authority by voluntarily prohibiting stories dealing with sexuality, drugs, or criminal behavior.
- (B) They introduced characters such as Superman and The Spirit.
- (C) They unintentionally laid the groundwork for the transition from the Golden Age of comic books to the Silver Age.
- (D) They focused increasingly on flashy artwork and less on well-developed stories.
- (E) They responded to the competitive pressure from horror comic books by increasing the amount of violence in their stories.

Correct Answer: (E) They responded to the competitive pressure from horror comic books by increasing the amount of violence in their stories.

Solution:

Step 1: Understand the passage's information.

The passage mentions that creators of superhero comic books responded to the popularity of horror comic books by increasing the violence in their own stories. This directly supports option (E).

Step 2: Review the answer choices.

- (A) The passage mentions that the Comics Code Authority censored comic books but does not suggest that creators voluntarily prohibited themes.
- (B) While Superman and The Spirit were introduced, this option doesn't relate to the actions of postwar creators specifically.
- (C) The passage does not imply that creators laid the groundwork for the Silver Age; instead, it focuses on their response to horror comics.
- (D) The passage does not state that creators focused on flashy artwork at the expense of story development.
- (E) This option directly matches the passage's claim that superhero comic book creators responded to the success of horror comics by increasing violence.

Conclusion:

Therefore, the best answer is (E), as it directly reflects the creators' actions in response to horror comics.

Quick Tip

When analyzing postwar changes, focus on the specific actions taken by creators in response to competition or changing audience demands.

7. According to the passage, what can we infer to be the central message of Fredric Wertham's *The Seduction of the Innocent*?

- (A) Adults reading violent comic books were as likely to be corrupted by them as young people were.
- (B) The horror comic books of the late 1940s were inferior to the superhero comic books that gained popularity during World War II.
- (C) Comic books were leading the nation's youth into crime, violence, and drug abuse.
- (D) Creating a regulatory board to censor the comic book industry would drive the worst offenders out of the business.
- (E) Comic books would never be able to convey stories of any serious literary merit.

Correct Answer: (C) Comic books were leading the nation's youth into crime, violence, and drug abuse.

Solution:

Step 1: Understand the central message of Wertham's book.

The passage describes how Wertham's book, *The Seduction of the Innocent*, argued that comic books were leading children into crime, violence, and drug abuse. This aligns with option (C).

Step 2: Review the answer choices.

- (A) Although Wertham may have believed comic books had a negative impact, the passage does not suggest he thought adults were as affected as children.
- (B) The passage does not compare the superiority of superhero comics over horror comics.
- (C) This is the central claim of Wertham's book, as described in the passage.
- (D) The passage does not discuss the creation of a regulatory board to target the worst offenders.
- (E) Wertham's argument was not focused on the literary merit of comic books, but on their social influence.

Conclusion:

Thus, the correct answer is (C), as it directly reflects Wertham's central argument.

Quick Tip

When evaluating central messages, focus on the main claim or argument made by the author.

8. According to the final paragraph of the passage, what may we infer about the comic book companies of the Silver Age?

- (A) They were able to create popular comic books despite the regulations of the Comics Code Authority.
- (B) They achieved commercial success because of the popularity of characters such as Spider-Man, the Hulk, and the Fantastic Four.
- (C) They repeated the same mistakes as the comic book companies of the Golden Age.
- (D) They failed to succeed because of the numbing effect of the Comics Code Authority regulations.
- (E) Marvel Comics was the only major comic book company to survive from the Golden Age into the Silver Age.

Correct Answer: (A) They were able to create popular comic books despite the regulations of the Comics Code Authority.

Solution:

Step 1: Understand the implications of the final paragraph.

The final paragraph discusses how Marvel Comics and other companies succeeded in creating popular comic books despite the restrictions of the Comics Code Authority. This supports option (A).

Step 2: Review the answer choices.

- (A) This option directly matches the passage's description of Marvel Comics overcoming the regulations.
- (B) The popularity of characters like Spider-Man and the Hulk is mentioned, but it does not directly address the issue of the Comics Code Authority.
- (C) The passage does not state that they repeated the mistakes of the Golden Age; it focuses on their success.
- (D) The passage does not suggest failure, but rather success despite the regulations.
- (E) The passage mentions Marvel's success but does not state that it was the only company to survive.

Conclusion:

Therefore, the correct answer is (A) because it best reflects the ability of comic book companies to succeed despite the regulations.

Quick Tip

When analyzing how external factors influence an industry, focus on how the industry adapted or overcame those factors to succeed.

9. In what light does the passage depict the efforts by Fredric Wertham to bring about regulation of the comic book industry?

- (A) As a fanatical crusade brought about by Wertham's inner demons
- (B) As a witch-hunt roughly analogous to the concurrent anti-Communist hearings by the House Committee on Un-American Activities
- (C) As a reasonable response to an industry that had gone too far
- (D) As an angry response to a trend in the subject matter of the comic book industry

(E) As an inappropriate response to a phenomenon that was not actually hurting anyone

Correct Answer: (E) As an inappropriate response to a phenomenon that was not actually hurting anyone

Solution:

Step 1: Analyze the final paragraph of the passage.

The final paragraph of the passage suggests that Fredric Wertham's efforts to regulate comic books were misplaced because the comic book industry was not causing the harm he claimed. This suggests that his actions were an inappropriate response.

Step 2: Review the answer choices.

- (A) There is no mention of Wertham's inner demons in the passage, so this is not supported.
- (B) The passage does not compare Wertham's actions to the anti-Communist hearings, so this is not the best option.
- (C) The passage does not describe Wertham's actions as reasonable but rather as an overreaction.
- (D) The passage describes Wertham's response to comic books as excessive, not simply angry at trends.
- (E) This option directly matches the passage's depiction of Wertham's response to the comic book industry.

Conclusion:

The best answer is (E), as it describes Wertham's efforts as an inappropriate reaction to a phenomenon that was not causing harm.

Quick Tip

When interpreting actions or events in a passage, focus on the tone or judgment the passage conveys about those actions.

10. According to the passage, which of the following statements can be made about the content of *Weird Fantasy* and *The Crypt of Terror*?

- (A) Their adult-oriented content was not suitable for young readers.
- (B) Their grim and gritty content was a market response to the demands of soldiers home from World War II.
- (C) They frequently depicted violence and criminal behavior, but shied away from sexuality or drug abuse.
- (D) Their sales surpassed those of previous best-selling titles such as Superman or Batman.
- (E) The publication of *Weird Fantasy* 1 coincided with the end of the Golden Age of comic books.

Correct Answer: (B) Their grim and gritty content was a market response to the demands of soldiers home from World War II.

Solution:

Step 1: Understand the passage's context.

The passage explains that comic books like *Weird Fantasy* and *The Crypt of Terror* were created to cater to the market demands of soldiers returning from World War II, seeking more mature, adult content. This directly supports option (B).

Step 2: Review the answer choices.

- (A) While the content was adult-oriented, the passage does not explicitly state that it was unsuitable for young readers.
- (B) This option directly matches the passage, which describes how these comics were created in response to the demands of returning soldiers.
- (C) The passage does not focus on whether the comics avoided certain content like sexuality or drug abuse.
- (D) There is no mention in the passage of sales comparisons to other best-selling titles like Superman or Batman.
- (E) The publication of *Weird Fantasy* 1 is not connected to the end of the Golden Age in the passage.

Conclusion:

The best answer is (B), as it reflects the market demand that influenced the content of the comics.

Quick Tip

When analyzing content, focus on the context provided in the passage to identify the driving forces behind the content creation.

The following questions present a sentence, part of which or all of which is underlined. Beneath the sentence, you will find five ways of phrasing the underlined part. The first of these repeats the original; the other four are different. If you think the original is best, choose the first answer; otherwise choose one of the others. These questions test correctness and effectiveness of expression. In choosing your answer, follow the requirements of standard written English; that is, pay attention to grammar, choice of words, and sentence construction. Choose the answer that produces the most effective sentence; this answer should be clear and exact, without awkwardness, ambiguity, redundancy, or grammatical error.

11. The way in which the mighty blue whale and the other baleen whales—the finback, gray, humpback, and right whales—eats was discovered by careful observation by biologists.

- (A) eats was discovered by
- (B) eat was discovered through
- (C) eats were discovered by means of
- (D) eat was discovered resulting from

Correct Answer: (B) eat was discovered through

Solution:

Step 1: Analyze the subject and verb agreement.

The subject "the mighty blue whale and the other baleen whales" is plural, so the verb must agree with this subject. Hence, "eats" is incorrect, and "eat" should be used.

Step 2: Review the options.

- (A) "eats was discovered by" is incorrect because "eats" does not match the plural subject.
- (B) "eat was discovered through" is correct because "eat" agrees with the plural subject, and "through" properly indicates the method.
- (C) "eats were discovered by means of" is incorrect because "eats" is singular, and "were" doesn't agree with it.
- (D) "eat was discovered resulting from" is grammatically awkward and unclear.

Conclusion:

The best option is (B) because it correctly matches the plural subject and provides a clear and grammatically correct sentence.

Quick Tip

When checking subject-verb agreement, ensure that plural subjects have plural verbs. Avoid unnecessary or awkward wording.

12. The eighteenth-century author Jonathan Swift once suggested in a satiric essay Irish farmers could eat their children to address the twin problems of overpopulation and lack of food.

- (A) Irish farmers could eat their children to address the twin problems of overpopulation and lack of food.
- (B) that the twin problems of overpopulation and lacking food could be addressed by the eating of children by Irish farmers
- (C) of the twin problems of Irish farmers, overpopulation and a lack of food, could be addressed by the eating of their children
- (D) that Irish farmers, facing overpopulation and lacking food, could address the twin problems through eating their children

Correct Answer: (D) that Irish farmers, facing overpopulation and lacking food, could address the twin problems through eating their children

Solution:**Step 1: Understand the original sentence.**

The sentence is trying to convey a suggestion made by Jonathan Swift. We need to ensure that the sentence is clear, concise, and grammatically correct.

Step 2: Review the options.

- (A) This option is grammatically correct, but it lacks clarity about the suggestion being made in Swift's satiric essay.
- (B) This option is overly wordy and awkwardly phrased, making it less effective.
- (C) This option is unclear because it uses redundant phrases and complicates the sentence unnecessarily.
- (D) This option is clear, concise, and provides the correct context for Swift's satirical suggestion, making it the best choice.

Conclusion:

Option (D) is the best choice because it conveys Swift’s suggestion clearly and concisely while maintaining grammatical accuracy.

Quick Tip

For clarity and conciseness, avoid unnecessary words and ensure that the sentence conveys the intended meaning effectively.

13. The stock market collapse of 1929 had far-reaching consequences for the national economy, causing a nationwide collapse in home values, putting millions out of work, and by erasing the investment savings of one-fifth of the population.

- (A) and by erasing
- (B) and erasing
- (C) and having erased
- (D) and erased
- (E) by erasing

Correct Answer: (B) and erasing

Solution:

Step 1: Understand the sentence structure.

The phrase “and erasing” correctly links the actions of the stock market collapse. The sentence lists actions using parallel structure.

Step 2: Review the options.

- (A) “and by erasing” introduces an unnecessary “by,” which disrupts the parallelism.
- (B) “and erasing” maintains the parallel structure of the sentence, making it the correct choice.
- (C) “and having erased” introduces an awkward verb tense that doesn’t match the other actions.
- (D) “and erased” lacks the continuity and parallel structure of the actions.
- (E) “by erasing” introduces a misplaced preposition that doesn’t fit the sentence structure.

Conclusion:

The correct answer is (B) because it maintains parallel structure and clarity in the sentence.

Quick Tip

When listing actions, ensure that each part of the list follows the same grammatical structure for clarity and readability.

14. No less remarkable than the invention of nuclear power has been the way the technology has prompted governments to reevaluate the nature of international relations.

- (A) No less remarkable than the invention of nuclear power
- (B) What was as remarkable as the invention of nuclear power
- (C) Inventing nuclear power has been none the less remarkable than
- (D) The invention of nuclear power has been no less remarkable as
- (E) The thing that was as remarkable as inventing nuclear power

Correct Answer: (A) No less remarkable than the invention of nuclear power

Solution:

Step 1: Understand the sentence construction.

The sentence is making a comparison, and the phrase “No less remarkable than the invention of nuclear power” is the most appropriate way to express this comparison.

Step 2: Review the options.

- (A) This is the most grammatically correct and effective choice, as it compares the invention of nuclear power to the subsequent effect on international relations.
- (B) “What was as remarkable” changes the meaning of the sentence and introduces unnecessary ambiguity.
- (C) “Inventing nuclear power has been none the less remarkable than” introduces unnecessary complexity and breaks the flow of the sentence.
- (D) “The invention of nuclear power has been no less remarkable as” does not correctly match the comparison structure.
- (E) “The thing that was as remarkable as inventing nuclear power” is awkward and incorrect in this context.

Conclusion:

Option (A) is the best because it maintains a clear and grammatically correct comparison.

Quick Tip

When making comparisons, ensure that the structure remains parallel and straightforward for clarity.

15. Unlike the recognition of ethical lapses in others, many people are disinclined to perceive the same flaws in themselves.

- (A) Unlike the recognition of ethical lapses in others
- (B) Unlike the recognition of ethical flaws in themselves, many people are willing to perceive the same flaws in others.
- (C) Many people, willing to recognize ethical lapses in others, are disinclined to perceive the same flaws in themselves.
- (D) Many people are disinclined to perceive the same flaws in themselves, but are willing to perceive ethical lapses in others.
- (E) Although willing to recognize ethical lapses in others, many people in themselves are disinclined to perceive the same flaws.

Correct Answer: (D) Many people are disinclined to perceive the same flaws in themselves, but are willing to perceive ethical lapses in others.

Solution:

Step 1: Analyze the sentence structure.

The sentence compares the willingness to recognize flaws in others versus oneself. The correct answer must maintain clarity and proper balance in the sentence.

Step 2: Review the options.

- (A) This option is incomplete and does not fully express the comparison between others and oneself.
- (B) This option changes the meaning of the sentence by implying willingness to recognize flaws in others, which deviates from the original intent.
- (C) This option is grammatically awkward and unclear.
- (D) This option correctly balances the comparison and maintains clarity between the two contrasting ideas.
- (E) This option is overly complex and not clear enough.

Conclusion:

Option (D) is the best because it clearly and correctly expresses the contrast in perceptions of flaws in others and oneself.

Quick Tip

For comparisons, maintain clarity and balance between the two ideas being compared to avoid confusion.

16. The Elk City garbage dumps are so full that Elk City has been forced to pay a large sum to Caribou City to accept much of Elk City's garbage. The Elk City mayor has proposed paying for this garbage relocation by imposing a tax on manufacturing businesses in Elk City. MegaCorp, the largest manufacturing business in the area, protests that this tax is unfair because businesses should not have to pay for a garbage problem that has been created by homeowners.

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

- (A) MegaCorp already pays more than 10,000 *per year in taxes and fees to Elk City*.
- (B) MegaCorp employs more than 60 percent of the employed residents of Elk City.
- (C) A recycling program would address the garbage problem more effectively by reducing the overall quantity of waste.
- (D) MegaCorp's manufacturing processes produce more than 90 percent of the total waste that goes into Elk City's garbage dumps.
- (E) Caribou City is happy to receive the extra garbage because the fees it collects from Elk City have helped to address a shortfall in education funding.

Correct Answer: (D) MegaCorp's manufacturing processes produce more than 90 percent of the total waste that goes into Elk City's garbage dumps.

Solution:

Step 1: Understand the argument.

MegaCorp argues that businesses should not have to pay for a garbage problem created by homeowners. To weaken this argument, we need evidence that directly ties the problem to the businesses, especially MegaCorp.

Step 2: Analyze the answer choices.

- (A) While MegaCorp pays taxes, this does not address the fairness of the proposed tax on businesses to resolve the garbage problem.
- (B) The number of people employed by MegaCorp is irrelevant to the argument about whether businesses should pay for the garbage issue.
- (C) A recycling program is a potential solution but does not directly weaken MegaCorp's argument about the tax burden on businesses.
- (D) This option directly links MegaCorp's manufacturing processes to the majority of the waste problem, weakening MegaCorp's argument that businesses should not bear responsibility.
- (E) Caribou City's willingness to accept the garbage does not address the fairness of taxing businesses in Elk City.

Conclusion:

Option (D) is the strongest because it shows that MegaCorp is directly responsible for the majority of the waste, thus weakening their argument against the tax.

Quick Tip

Look for evidence that directly links the argument to the specific issue being debated—in this case, responsibility for the garbage problem.

17. There are Congressmen who say that the development of a space-based missile defense system will provide economic benefits only to military contractors. This claim is not true. A space-based missile defense system, even if it has no current applications for civilian businesses, will still benefit civilian businesses because those businesses will be able to find profitable uses for the government-developed technology in the future. Which of the following, if true, provides the most support for the argument that a space-based missile defense system could provide future economic benefits for civilian businesses?

- (A) Several new materials developed for the Apollo space program were later adapted to provide basic components of the modern computer and electronics industries.
- (B) The missile defense system in question will not require the development of any new technologies.
- (C) Space-based missile defense programs may be the only way to defend civilian populations against preemptive nuclear attacks.
- (D) Space-based missile defense programs, although more expensive than traditional land-based systems, are theoretically more effective than traditional land-based systems.
- (E) The scientists employed on the project could make extraordinary advances in the capabilities of intercontinental ballistic missiles used by the army.

Correct Answer: (A) Several new materials developed for the Apollo space program were later adapted to provide basic components of the modern computer and electronics industries.

Solution:**Step 1: Understand the argument.**

The argument suggests that the development of a space-based missile defense system could have long-term economic benefits for civilian businesses. To support this claim, we need evidence that similar technologies have led to profitable civilian applications in the past.

Step 2: Analyze the answer choices.

- (A) This option directly supports the argument by showing that technologies developed for space programs have been successfully adapted for civilian use.
- (B) This option does not address the potential long-term benefits for civilian businesses.
- (C) This option talks about defense, but it does not address the potential for civilian economic benefits.
- (D) This option compares effectiveness, but it does not support the argument about civilian economic benefits.
- (E) This option discusses military applications but does not relate to civilian economic benefits.

Conclusion:

Option (A) is the best choice because it directly supports the idea that technologies developed for space-based systems can benefit civilian businesses.

Quick Tip

When evaluating an argument, look for past examples where similar technology has benefited the civilian sector to strengthen the claim.

18. The commissioner of a professional sports league dictated that teams could not put players on the field who had a greater than 20 percent chance of suffering a career-ending spinal injury during competition. The commissioner justified this decision as a way to protect players from injury while protecting the league from lawsuits.

Which of the following, if true, would most undermine the effectiveness of the commissioner's new policy?

- (A) Spinal injuries can result in paralysis, loss of fine motor skills, and even death.
- (B) The previous year, more than seven players in the league suffered career-ending spinal injuries.
- (C) The players' union agrees that the risk of injury is an inevitable part of playing the game at a professional level.
- (D) There is no scientifically valid method for determining the likelihood of any player suffering a career-ending spinal injury at any given time.
- (E) Players barred from playing because of this new regulation will be entitled to compensation for lost wages at a level determined by the commissioner's office.

Correct Answer: (D) There is no scientifically valid method for determining the likelihood of any player suffering a career-ending spinal injury at any given time.

Solution:

Step 1: Understand the question.

The policy's effectiveness depends on accurately assessing the risk of career-ending injuries. If there is no reliable method to determine this risk, the policy may be ineffective.

Step 2: Analyze the answer choices.

- (A) This information is relevant to the severity of injuries but does not directly impact the policy's effectiveness in terms of assessment.
- (B) This provides context for the policy but does not affect its ability to assess injury risk accurately.
- (C) This statement supports the inherent risks of the game but does not affect the policy's method of determining injury risk.
- (D) This statement directly undermines the policy's effectiveness, as it implies the policy cannot accurately assess players' injury risks.
- (E) This option addresses compensation but does not affect the ability to assess injury risk.

Conclusion:

Option (D) directly undermines the policy's effectiveness by highlighting the lack of a valid method for assessing the risk of injury.

Quick Tip

When evaluating a policy, focus on the practical feasibility of the criteria used to enforce the policy.

19. There are few things worse for a new parent than listening to a baby scream in hunger while a bottle of formula slowly warms up in a bowl of hot water. So why not just pop the bottle in the microwave and zap it in 20 seconds? Because microwaves heat fluids unevenly, and a hot pocket in the formula could seriously injure the baby.

Which of the following is presupposed in the argument against heating formula in the microwave?

- (A) Babies generally refuse to eat formula that has been heated in a microwave.
- (B) Microwave radiation might break down some of the proteins in formula that are vital to a baby's health.
- (C) Different microwaves use different amounts of power, and consequently some models could heat a bottle to scalding temperature faster than others.
- (D) Parents cannot be expected to consistently even out the temperature of a microwaved bottle by shaking it vigorously before giving it to the baby.
- (E) Once formula has been heated, any leftover formula should be discarded, because otherwise the formula could spoil between feedings and make the baby sick.

Correct Answer: (D) Parents cannot be expected to consistently even out the temperature of a microwaved bottle by shaking it vigorously before giving it to the baby.

Solution:**Step 1: Understand the argument.**

The argument warns against microwaving baby formula because of uneven heating and the possibility of creating hot pockets. To support this, the argument assumes that parents cannot ensure the even distribution of heat.

Step 2: Review the answer choices.

- (A) The passage does not discuss babies refusing microwaved formula, so this is not assumed.
- (B) The passage does not mention any concerns about nutritional value, so this is not the presupposition.
- (C) The passage mentions uneven heating, but it is not about different microwaves' power levels, so this is not the presupposition.
- (D) This option directly reflects the assumption that parents cannot reliably even out the heating of the formula.
- (E) The passage does not discuss leftover formula, so this is not a presupposition.

Conclusion:

Option (D) is the best answer as it supports the argument that uneven heating could be dangerous if parents cannot ensure even heat distribution.

Quick Tip

When analyzing an argument, focus on the assumptions that underlie the reasoning and the concerns about the procedure or suggestion.

20. Charlie's Chainsaw Company has reason to believe that one of its models of saw is defective. A recall of all of the saws would cost more than 5million, and would probably result in a loss in market share over the next quarter because of bad publicity. Still, Which of the following, if true, most supports the conclusion above?

- (A) Defective chainsaws can seriously injure or even kill the people who use them.
- (B) Charlie's chief rival has recalled two of its products within the past year.
- (C) Product recalls often result in a perception by customers that a given product is permanently defective, even after the defect has been remedied.
- (D) The stocks of publicly traded companies that announce product recalls often drop upon the announcement, but they generally return to the pre-announcement level within 12 months.
- (E) The stocks of publicly traded companies that announce product recalls generally outperform the stock market over the next five years.

Correct Answer: (A) Defective chainsaws can seriously injure or even kill the people who use them.

Solution:

Step 1: Understand the conclusion.

The conclusion states that a recall is the right economic decision despite the cost and potential market share loss. To support this conclusion, we need evidence that the benefits of recalling (e.g., safety) outweigh the economic costs.

Step 2: Review the answer choices.

- (A) This option supports the conclusion by emphasizing the potential harm of defective products, making a recall necessary for safety.

- (B) The actions of the rival company are irrelevant to the safety and necessity of a recall.
- (C) This focuses on consumer perception, but does not address the safety concern driving the recall.
- (D) The economic impact of the recall is important, but the safety concern is more pressing for supporting the recall.
- (E) This option discusses stock performance but does not address the core reason for the recall.

Conclusion:

Option (A) is the best answer because it supports the necessity of the recall based on safety concerns.

Quick Tip

When evaluating a decision, focus on the fundamental reason for the action (e.g., safety, financial risk) and how supporting evidence aligns with that reason.

21. A dog enthusiast took home two puppies from the dog shelter. He fed one of the puppies super-premium canned dog food, while he fed the other a generic brand from the grocery store. The dog fed on the generic brand gained weight twice as fast as the dog fed the super-premium brand. Because of the difference in these results, the dog enthusiast concluded that the generic brand actually provided nutrition superior to that of the super-premium brand.

Each of the following, if true, would weaken the evidence for the dog enthusiast's conclusion except for which of the following?

- (A) A dog will sometimes gain more weight when eating inferior-quality food because he must eat more of it to obtain the nutrients he needs.
- (B) The dogs were of mixed breeds and appeared to be descended from dogs of different sizes.
- (C) Both dogs ate all of the food given to them at each serving.
- (D) The dog enthusiast did not give the two dogs equal amounts of their respective foods.
- (E) A dog will gain more weight when eating inferior-quality food because inferior food is less nutritious.

Correct Answer: (C) Both dogs ate all of the food given to them at each serving.

Solution:

Step 1: Understand the argument.

The dog enthusiast concluded that the generic brand is better because the dog fed this food gained weight faster. However, other factors could explain the results.

Step 2: Review the answer choices.

- (A) This would weaken the conclusion because it suggests that the faster weight gain could be due to the lower quality of the food.
- (B) This weakens the conclusion because mixed breeds of different sizes could explain the weight gain differences.

- (C) This option supports the reliability of the experiment by ensuring the dogs ate the same amount, which keeps the comparison fair.
- (D) This weakens the conclusion because unequal amounts of food would affect the weight gain comparison.
- (E) This would weaken the conclusion because it suggests inferior food could lead to faster weight gain.

Conclusion:

Option (C) does not weaken the conclusion, as it ensures fairness in the food consumption between the two dogs.

Quick Tip

When analyzing experiments, consider factors like food intake and breed differences that could affect the results.

The following questions present a sentence, part of which or all of which is underlined. Beneath the sentence, you will find five ways of phrasing the underlined part. The first of these repeats the original; the other four are different. If you think the original is best, choose the first answer; otherwise choose one of the others. These questions test correctness and effectiveness of expression. In choosing your answer, follow the requirements of standard written English; that is, pay attention to grammar, choice of words, and sentence construction. Choose the answer that produces the most effective sentence; this answer should be clear and exact, without awkwardness, ambiguity, redundancy, or grammatical error.

22. A council of ecologists in Hawaii have concluded that much of the currently uncontrolled invasive species on the island chain were arriving in the holds of cargo ships.

- (A) have concluded
- (B) has concluded
- (C) have concluded
- (D) concluded
- (E) has concluded

Correct Answer: (B) has concluded

Solution:

Step 1: Subject-verb agreement.

The subject "a council" is singular, so the correct verb form should be "has" instead of "have."

Step 2: Review the options.

- (A) Incorrect; the subject "council" is singular and should match with the verb "has."
- (B) Correct; "has concluded" agrees with the singular subject "council."
- (C) Identical to (A) and also incorrect.
- (D) "Concluded" is the correct verb tense, but the subject-verb agreement is wrong.
- (E) Identical to (B) but incorrect in structure.

Conclusion:

The correct answer is (B), as it ensures subject-verb agreement.

Quick Tip

Ensure that the subject and verb agree in number. If the subject is singular, use the singular verb form.

23. Some people say that the answer to crime is to build more prisons, but more sensitive observers argue that instead we should address the sources of crime through reduced poverty, a cut off supply of illicit drugs, and by focusing on keeping kids in school.

(A) through reduced poverty, a cut off supply of illicit drugs, and by focusing on keeping kids in school

(B) by the reduction of poverty, cutting off the supply of illicit drugs, and to focus on keeping kids in school

(C) by reducing poverty, cutting off the supply of illicit drugs, and focusing on keeping kids in school

(D) by means of reducing poverty, cutting off the supply of illicit drugs, and through focusing on keeping kids in school

(E) to reduce poverty, cut off the supply of illicit drugs, and to focus on keeping kids in school

Correct Answer: (C) by reducing poverty, cutting off the supply of illicit drugs, and focusing on keeping kids in school

Solution:

Step 1: Parallel structure.

The three items in the list must follow the same grammatical structure. "Reducing," "cutting off," and "focusing" all use the gerund form to maintain consistency.

Step 2: Review the options.

- (A) "Cut off" should be "cutting off" to maintain parallelism.
- (B) "to focus on" is incorrect because it disrupts the parallel structure.
- (C) Correct structure; all items in the list use the gerund form.
- (D) "By means of" and "through focusing" disrupt the parallelism.
- (E) "To reduce" and "to focus" do not match the parallel structure.

Conclusion:

The correct answer is (C), which maintains the parallel structure needed for clarity.

Quick Tip

When listing multiple items, ensure they all share the same grammatical structure for clarity and consistency.

24. As automobiles replaced horses as the primary means of transportation, it was widely anticipated that the time spent in transit by the average traveler would decrease.

- (A) As automobiles replaced horses as the primary means of transportation,
- (B) As automobiles replaced horses as the primary means of transportation, there was wide anticipation that
- (C) With horses being replaced by automobiles as the primary means of transportation, there was wide anticipation that
- (D) As the primary means of transportation replaced horses with automobiles, many anticipated that
- (E) Automobiles replacing horses as the primary means of transportation produced anticipation widely that

Correct Answer: (B) As automobiles replaced horses as the primary means of transportation, there was wide anticipation that

Solution:

Step 1: Sentence clarity.

The sentence should be clear and maintain proper word order. "There was wide anticipation that" is grammatically correct and clear.

Step 2: Review the options.

- (A) This option is grammatically awkward and does not express the idea clearly.
- (B) This is the clearest and most grammatically correct option, with proper structure.
- (C) "With horses being replaced by automobiles" creates unnecessary complexity.
- (D) The word order is awkward, and it changes the meaning slightly.
- (E) "Produced anticipation widely that" is awkward and not commonly used.

Conclusion:

The best option is (B), as it provides the clearest and most grammatically correct sentence structure.

Quick Tip

Ensure sentence clarity by maintaining proper word order and avoiding unnecessary complexity.

25. Intrigued by the new rules that favored quickness over strength, the decision of the coach was to give more playing time to the team's smaller athletes.

- (A) the decision of the coach was to give more playing time to the team's smaller athletes
- (B) the coach decided to give the team's smaller athletes
- (C) it was decided by the coach to give the team's smaller athletes more playing time
- (D) the team's smaller athletes were given more playing time by the coach
- (E) more playing time was given to the team's smaller athletes by the coach

Correct Answer: (B) the coach decided to give the team's smaller athletes

Solution:**Step 1: Clarity and conciseness.**

The sentence should be as clear and concise as possible. "The coach decided to give" is the most direct and effective expression.

Step 2: Review the options.

- (A) This phrase is grammatically correct but awkward in its phrasing.
- (B) Correct; it is clear and concise.
- (C) "It was decided by the coach" introduces unnecessary passive voice.
- (D) This is grammatically correct but less direct.
- (E) This introduces unnecessary passive voice and makes the sentence longer.

Conclusion:

Option (B) is the best choice for its clarity and directness.

Quick Tip

In writing, prefer active voice for clarity and conciseness.

26. At ground level, nitrous oxides are bad enough, but when up high, atmospherically they bond with free ions to create dangerous smog particles.

- (A) but when up high, atmospherically they
- (B) however, it is in the upper atmosphere
- (C) but in the upper atmosphere, they
- (D) they however, but once in the upper atmosphere it is known to
- (E) as in the upper atmosphere they

Correct Answer: (C) but in the upper atmosphere, they

Solution:**Step 1: Understand sentence flow.**

The sentence needs to clearly describe the transition from ground level to the upper atmosphere without creating confusion. Option (C) is the best choice.

Step 2: Review the options.

- (A) "But when up high, atmospherically they" is awkward and not clear.
- (B) "However, it is in the upper atmosphere" introduces unnecessary complexity.
- (C) "But in the upper atmosphere, they" is the clearest and most grammatically correct choice.
- (D) The phrasing is awkward and introduces unnecessary complexity.
- (E) This option is grammatically incorrect and unclear.

Conclusion:

Option (C) is the best because it maintains clarity and proper sentence structure.

Quick Tip

Ensure smooth transitions between clauses by maintaining clarity and avoiding unnecessary words.

27. Paleontologists hypothesize that modern birds evolved from the family of dinosaurs that included *Tyrannosaurus rex*. This hypothesis would be strongly supported if evidence that dinosaurs from this family had a body covering resembling feathers could be found, but so far no such evidence has been found.

Which of the following, if true, would most help the paleontologists explain why no evidence of feathered dinosaurs has yet been found?

- (A) Fossilized dinosaurs have shown many birdlike characteristics, such as bone structure and winglike arms.
- (B) If birds are in fact the descendants of dinosaurs, then it can be argued that the dinosaurs never really died out.
- (C) Flying dinosaurs such as the *Pteranodon*, which is not thought to have been related to modern birds, do not appear to have had feathers.
- (D) Soft tissues such as skin and feathers do not fossilize like bones, and therefore are far less likely to have left permanent evidence in the fossil record.
- (E) The thousands of dinosaur fossils excavated by paleontologists represent only a tiny fraction of the billions of dinosaurs that once lived.

Correct Answer: (D) Soft tissues such as skin and feathers do not fossilize like bones, and therefore are far less likely to have left permanent evidence in the fossil record.

Solution:

Step 1: Understand the hypothesis.

The hypothesis is that modern birds evolved from dinosaurs, and the lack of evidence for feathered dinosaurs is a key issue. We need to find an explanation for why feathered dinosaurs have not been found.

Step 2: Review the options.

- (A) While fossilized dinosaurs showing birdlike characteristics is relevant, it doesn't directly explain the absence of feathered dinosaurs.
- (B) This is an interesting claim about the continuity of dinosaurs, but it does not address the lack of evidence for feathers.
- (C) The *Pteranodon* is not related to modern birds and thus doesn't provide any explanation for the absence of feathers in dinosaurs thought to be related to birds.
- (D) This option directly explains that feathers, being soft tissues, are less likely to fossilize, which would help explain the lack of evidence for feathered dinosaurs.
- (E) While this option discusses the number of fossils, it does not address the specific issue of missing evidence for feathers.

Conclusion:

Option (D) is the best because it explains why feathered dinosaurs are not likely to be found in the fossil record.

Quick Tip

When evaluating scientific claims, consider the nature of the evidence and what factors may influence its availability or preservation.

28. Bob and Linda are tired of the freezing cold days in Glenmont, so they are considering retiring to either Sunny Glen or Buena Vista. Bob points out that Sunny Glen has an average annual temperature 8 degrees Fahrenheit higher than Buena Vista. Linda insists, however, that Buena Vista would be the better choice.

Which of the following, if true, best accounts for Linda's preference for Buena Vista?

- (A) Different people experience cold in different ways, so what seems cold to Linda may seem pleasantly cool to Bob.
- (B) Sunny Glen has a somewhat higher risk of hurricanes than does Glenmont.
- (C) Buena Vista has a range of cultural offerings, including an opera, a ballet, and three jazz clubs.
- (D) Buena Vista has more scenic views and better weather than does Sunny Glen.
- (E) Sunny Glen is warmer than Buena Vista in the summer, but it also has more freezing cold days in the winter.

Correct Answer: (C) Buena Vista has a range of cultural offerings, including an opera, a ballet, and three jazz clubs.

Solution:

Step 1: Understand the context.

Bob and Linda are deciding between two places based on temperature differences. Linda prefers Buena Vista, so we need to find an explanation for her preference that goes beyond temperature.

Step 2: Review the options.

- (A) This explains how cold is perceived differently but does not explain why Linda prefers Buena Vista despite the higher temperature in Sunny Glen.
- (B) This could explain why Bob might prefer Sunny Glen, but it does not explain Linda's preference for Buena Vista.
- (C) This option directly supports Linda's preference by highlighting cultural offerings in Buena Vista, which might be more appealing to her.
- (D) This option mentions weather but doesn't provide a compelling reason for Linda's preference.
- (E) While this explains the weather difference, it doesn't explain Linda's preference for Buena Vista.

Conclusion:

Option (C) is the best because it provides a reasonable explanation for Linda's preference based on factors beyond temperature.

Quick Tip

Consider non-obvious factors, such as lifestyle preferences, when evaluating decisions about relocation or lifestyle choices.

29. Although many people would not believe it, the mosquito is actually the most dangerous animal in Africa. While the bite of the black mamba is invariably lethal when untreated, this dreaded snake kills only a few dozen people per year. Hippopotami, with their immense strength and foul dispositions, kill hundreds of people per year in rivers and lakes, but the mosquito is still more dangerous. Mosquitoes bite hundreds of millions of people in Africa every year, and they infect over a million each year with malaria, a disease that is often fatal. Which of the following questions would be most useful in evaluating the claim made above regarding the mosquito?

- (A) Could a person survive an attack by a black mamba if that person received prompt medical attention?
- (B) What criteria are used to determine which animal is the “most dangerous” animal?
- (C) Could the incidence of mosquito bites be decreased through the judicious use of pesticides and insect repellent?
- (D) Does malaria kill more people per year in Africa than tuberculosis?
- (E) How does the percentage of people who survive hippopotamus attacks in Africa each year compare with the percentage of people who survive mosquito bites?

Correct Answer: (B) What criteria are used to determine which animal is the “most dangerous” animal?

Solution:

Step 1: Evaluate the claim about the mosquito.

The claim is that mosquitoes are the most dangerous animal in Africa, but this is based on an undefined comparison. We need to establish the criteria for determining “most dangerous.”

Step 2: Review the options.

- (A) This question addresses the black mamba but does not help assess whether mosquitoes are the most dangerous animal.
- (B) This question directly addresses how to determine the “most dangerous” animal, making it the most useful for evaluating the claim.
- (C) While pesticides and repellents may reduce mosquito bites, this question does not directly evaluate the claim.
- (D) This question provides interesting information, but it does not help compare the relative danger of mosquitoes to other animals.
- (E) This question compares the survival rate of different animal attacks but does not address the overall danger posed by mosquitoes.

Conclusion:

Option (B) is the most useful because it helps clarify the criteria for determining which animal is the most dangerous.

Quick Tip

When evaluating claims about danger or severity, it is important to understand the criteria used for comparison.

The questions in this group are based on the content of a passage. After reading the passage, choose the best answer to each question. Answer all questions following the passage on the basis of what is stated or implied in the passage.

Although hard statistics are difficult to come by, there is substantial anecdotal evidence that use of performance-enhancing drugs, or doping, is rampant in professional sports. Of perhaps greater significance to society are the estimated 1.5 million amateur athletes who use steroids, either to improve their appearance or to emulate the performance of their favorite professional athletes. This chemical epidemic is a pernicious threat to both the nation's health and our collective sense of "fair play."

Nonprescription anabolic steroids have been illegal in the United States since 1991, and most professional sports leagues have banned them since the 1980s. These bans are partly a matter of fairness—a talented athlete trained to the peak of their ability simply cannot compete with an equivalent athlete using steroids—but also based on issues of health. Anabolic androgenic steroids ("anabolic" means that they build tissues; "androgenic" means that they increase masculine traits) have been linked to liver damage, kidney tumors, high blood pressure, balding, and acne. They function by increasing the body's level of testosterone, the primary male sex hormone. In men, this dramatic increase in testosterone can lead to the shrinking of testicles, infertility, and the development of breasts; in women, it can lead to the growth of facial hair and permanent damage to the reproductive system. Steroids have also been linked to a range of psychological problems, including depression and psychotic rage.

The punishments for getting caught using steroids are severe, and the serious health consequences are well documented. Despite this, millions of professional and amateur athletes continue to use performance-enhancing drugs. Why is this?

One clear pattern is that many athletes will do whatever it takes to get an edge on the competition. Since the 1950s, Olympic athletes have played a cat-and-mouse game with Olympic Committee officials to get away with doping, because the drugs really do work. Athletes who dope are simply stronger and faster than their competitors who play fair. Professional athletes in football and baseball have found that steroids and human growth hormone can give them the edge to score that extra touchdown or home run, and in the modern sports market, those results can translate into millions of dollars in salary. For the millions of less talented athletes in gyms and playing fields across the country, drugs seem like the only way to approach the abilities of their heroes in professional sports.

The other clear pattern, unfortunately, is that it has been all too easy for abusers to get away with it. Steroid abuse is often regarded as a "victimless crime." One of the favored ways to trick the testers is to use "designer" steroids. There are thousands of permutations of testosterone, such as THG, that can be produced in a lab. Chemists have discovered that they can create new drugs that produce androgenic effects but do not show up off the

standard drug testing charts. Other methods have been used to hide the steroids but stop a few weeks before testing, to use other chemicals to mask the traces of steroids, or to switch in a “clean” sample of urine at the testing site. Other athletes use steroid precursors, such as androstenedione, that have androgenic effects similar to those of steroids but are not illegal because they are not technically steroids. The sad fact is that unless the government and professional sports organizations are willing to get tough on the steroid problem, the use of performance-enhancing drugs in sports is not going to end.

30. What appears to be the primary purpose of this passage?

- (A) To educate readers about the health threats involved in the use of performance-enhancing drugs
- (B) To analyze the ways in which professional athletes have eluded attempts to screen for performance-enhancing drugs
- (C) To discuss the reasons why performance-enhancing drugs are a dangerous and persistent problem for society
- (D) To complain about the inadequate efforts by government and professional sports organizations to eliminate the problem of performance-enhancing drugs
- (E) To argue that athletes, both professional and amateur, should not use performance-enhancing drugs on the grounds that they are both dangerous and unfair

Correct Answer: (C) To discuss the reasons why performance-enhancing drugs are a dangerous and persistent problem for society

Solution:

Step 1: Understand the primary focus of the passage.

The passage addresses the widespread use of performance-enhancing drugs, both in professional and amateur sports, and highlights the dangers associated with them.

Step 2: Review the options.

- (A) This option focuses on health threats but does not capture the overall discussion of the issue in society.
- (B) The passage does mention how athletes have evaded detection, but the primary purpose is not to analyze this behavior.
- (C) This option captures the main theme of the passage, which is why performance-enhancing drugs are a long-standing problem.
- (D) While the passage does mention the failure of organizations, it is not primarily a complaint about their efforts.
- (E) The passage does discuss the dangers of performance-enhancing drugs but does not primarily focus on a call to stop their use.

Conclusion:

Option (C) is the best answer because it directly reflects the passage’s primary purpose: explaining the problem of performance-enhancing drugs.

Quick Tip

When reading passages, focus on the main message or purpose rather than the details to answer the question correctly.

31. According to the passage, all of the following are known potential consequences of steroid use except for which of the following?

- (A) Damage to reproductive organs
- (B) Decreased blood pressure
- (C) Increases in the user's strength and speed
- (D) Kidney tumors
- (E) Increased risk of depression

Correct Answer: (B) Decreased blood pressure

Solution:

Step 1: Review the potential consequences mentioned in the passage.

The passage lists several health risks associated with steroid use, including liver damage, kidney tumors, high blood pressure, and psychological effects like depression.

Step 2: Review the options.

- (A) The passage mentions damage to reproductive organs as a consequence of steroid use.
- (B) Decreased blood pressure is not mentioned as a consequence of steroid use, so this is the correct answer.
- (C) The passage explicitly states that steroids increase strength and speed.
- (D) Kidney tumors are listed as a consequence of steroid use.
- (E) Increased risk of depression is clearly stated in the passage.

Conclusion:

Option (B) is the correct answer because it is not mentioned in the passage as a consequence of steroid use.

Quick Tip

Always carefully review the passage for specific details to identify which options are not supported.

32. The author's attitude toward the problem of steroid abuse is best described as which of the following?

- (A) Cautious but optimistic
- (B) Judgmental but supportive
- (C) Ambivalent but resigned
- (D) Curious but subjective
- (E) Concerned but pessimistic

Correct Answer: (E) Concerned but pessimistic

Solution:

Step 1: Analyze the tone of the passage.

The passage expresses concern about the widespread use of steroids, especially in both professional and amateur sports. However, the author suggests that unless stronger measures are taken, the problem will persist. This shows a level of pessimism.

Step 2: Review the options.

- (A) The author is not optimistic about solving the problem, so this is not the correct choice.
- (B) While the passage is concerned, it is not judgmental or supportive.
- (C) The author is not ambivalent, as the concern is clear.
- (D) The passage is not curious or subjective in tone.
- (E) This option best captures the author's attitude, which is concerned about the issue but pessimistic about its resolution.

Conclusion:

Option (E) is the best choice, as it accurately describes the author's attitude toward the problem of steroid abuse.

Quick Tip

Pay attention to the tone of the passage, especially the author's level of concern and optimism about solving the issue.

33. Which of the following can be inferred about a long-distance race in which both athletes who use performance-enhancing drugs and those who do not use these drugs compete?

- (A) The athletes using the drugs will be caught by the proper authorities and ejected from the race.
- (B) The athletes using the drugs will have a better chance of winning the race.
- (C) The athletes using the drugs will use steroid precursors that produce effects similar to those of androgenic drugs but are not technically steroids.
- (D) The athletes using the drugs are more likely to be professionals in their sport than the athletes who do not use such drugs.
- (E) The athletes using the drugs will be more likely to use any means possible to win the race, including intentional sabotage of other racers' equipment.

Correct Answer: (B) The athletes using the drugs will have a better chance of winning the race.

Solution:

Step 1: Understand the context.

The passage discusses how athletes using performance-enhancing drugs may gain an edge over competitors who do not use such drugs.

Step 2: Review the options.

- (A) This is not supported by the passage. There is no mention of authorities ejecting the athletes.
- (B) This is supported by the passage, which explains that athletes using performance-enhancing drugs can become stronger and faster than their competitors.
- (C) This is not discussed in the passage; the focus is on steroid use, not precursors.

- (D) While professionals might use performance-enhancing drugs, the passage does not specifically make this distinction.
- (E) Sabotage is not mentioned as a likely tactic for athletes using drugs.

Conclusion:

Option (B) is correct because it directly supports the claim that performance-enhancing drugs improve athletic performance.

Quick Tip

Focus on the key information presented in the passage to find the best inference. Here, it's about the performance improvement due to drugs.

34. The relationship of an athlete who does not use performance-enhancing drugs to an athlete who does use such drugs is most similar to which of the following?

- (A) The relationship of a farmer selling milk from cows that have been given bovine growth hormone, a legal drug that promotes greater than normal milk production, to a farmer selling milk from cows that have not been given bovine growth hormone.
- (B) The relationship of a chess player to a competitor who uses psychological tricks in order to gain an advantage.
- (C) The relationship of a boxer in the lightweight class to a boxer in the heavyweight class.
- (D) The relationship of a person taking a standardized test according to the rules to a person taking the same test while using an illegal hidden calculator.
- (E) The relationship of a person entering a pig in an agricultural contest to a person entering a guinea pig in the same contest.

Correct Answer: (D) The relationship of a person taking a standardized test according to the rules to a person taking the same test while using an illegal hidden calculator.

Solution:

Step 1: Understand the comparison.

The passage compares athletes using performance-enhancing drugs to those who don't use them, focusing on the unfair advantage the drug users have.

Step 2: Review the options.

- (A) This comparison involves legal vs. illegal drug use and does not fully capture the idea of one competitor gaining an unfair advantage over another.
- (B) This is not quite analogous to the comparison between athletes, as it's more about psychological tricks.
- (C) This is a comparison of different weight classes, not an unfair advantage from drug use.
- (D) This is the best comparison because it highlights the difference between a person following the rules and one who gains an unfair advantage using illegal methods.
- (E) This comparison is unrelated to the issue of unfair advantage in competition.

Conclusion:

Option (D) best matches the idea of an unfair advantage, similar to the one gained by athletes using performance-enhancing drugs.

Quick Tip

When looking for analogous situations, focus on the idea of fairness and advantage gained by one party over another.

35. According to the passage, which of the following can be inferred about the “designer” steroid THG?

- (A) It can increase masculine traits in users without setting off standard doping tests.
- (B) It does not cause the health problems associated with traditional anabolic steroids.
- (C) Even if professional sports organizations could detect THG, they would take no action against those who use it.
- (D) It is a chemical permutation of progesterone, a hormone that has powerful effects on the human body.
- (E) Because it is a “designer” steroid, it is more expensive than generic steroids.

Correct Answer: (A) It can increase masculine traits in users without setting off standard doping tests.

Solution:

Step 1: Review the relevant details in the passage.

The passage mentions designer steroids like THG, which are created to bypass standard doping tests while still producing androgenic effects.

Step 2: Review the options.

- (A) This is directly supported by the passage, which says that designer steroids do not show up in tests but still have androgenic effects.
- (B) The passage does not state that THG lacks the health risks associated with traditional steroids.
- (C) The passage suggests that sports organizations are not doing enough to catch users, but it doesn't imply that no action would be taken if THG were detected.
- (D) The passage does not specifically describe THG as a permutation of progesterone.
- (E) There is no information about the cost of THG compared to other steroids.

Conclusion:

Option (A) is the best answer because it directly relates to the fact that THG can bypass doping tests while still having similar effects to other steroids.

Quick Tip

Focus on key details from the passage, especially those related to the specific topic of the question—in this case, the properties of THG.

36. Which of the following best expresses the role of the third paragraph in the overall structure of the passage?

- (A) It redirects the theme of the passage from presenting a problem to explaining the reasons for the problem's severity.
- (B) It introduces a new concept that defines the rest of the passage.
- (C) It provides an answer to a question posed in the first two paragraphs.
- (D) It refutes the central hypothesis of the second paragraph and poses a question that is answered in the following paragraphs.
- (E) It narrows the focus of the passage from the general themes of the first two paragraphs to the more specific themes of the last two paragraphs.

Correct Answer: (A) It redirects the theme of the passage from presenting a problem to explaining the reasons for the problem's severity.

Solution:

Step 1: Understand the function of the third paragraph.

The third paragraph shifts from introducing the problem of steroid use to explaining why it is so widespread and difficult to control.

Step 2: Review the options.

- (A) This option best captures how the third paragraph shifts the focus to explaining why steroid use persists despite the known risks.
- (B) The third paragraph doesn't introduce a new concept but rather expands on the existing idea.
- (C) The first two paragraphs present the problem, but the third paragraph does not directly answer any specific question from those sections.
- (D) The third paragraph doesn't refute any hypotheses or introduce a new question to be answered later.
- (E) The third paragraph doesn't narrow the focus but elaborates on the issue discussed in the first two paragraphs.

Conclusion:

Option (A) is the best because it explains the role of the third paragraph in redirecting the passage's theme from the problem to the reasons for its persistence.

Quick Tip

Pay attention to how each paragraph develops or shifts the main theme or focus of the passage.

The following questions present a sentence, part of which or all of which is underlined. Beneath the sentence you will find five ways of phrasing the underlined part. The first of these repeats the original; the other four are different. If you think the original is best, choose the first answer; otherwise choose one of the others. These questions test correctness and effectiveness of expression. In choosing your answer, follow the requirements of standard written English; that is, pay attention to grammar, choice of words, and sentence construction. Choose the answer that produces the most effective sentence; this answer should be clear and exact, without awkwardness, ambiguity, redundancy, or grammatical error.

37. His opponent having sprained his wrist, Andrew could have won by exploiting this weakness, but he chose not to do it.

(A) His opponent having sprained his wrist, Andrew could have won by exploiting this weakness, but he chose not to do it.

(B) His opponent having sprained his wrist, Andrew could have won by exploiting this weakness after his opponent sprained his wrist, but he chose not to do so.

(C) Choosing not to do so, Andrew could have won after his opponent sprained his wrist by exploiting this weakness.

(D) After his opponent sprained his wrist, Andrew could have won by exploiting this weakness, but he chose not to do it.

(E) After his opponent sprained his wrist, Andrew could have won, but chose not to do it, won by exploiting this weakness.

Correct Answer: (D) After his opponent sprained his wrist, Andrew could have won by exploiting this weakness, but he chose not to do it.

Solution:

Step 1: Sentence clarity and grammar.

The sentence needs to flow clearly while maintaining proper grammatical structure. Option (D) provides a clear, correctly punctuated version of the sentence.

Step 2: Review the options.

- (A) The phrasing is correct but awkward, and the participle construction "His opponent having sprained his wrist" feels too formal.

- (B) This option repeats the same information unnecessarily, making it redundant.

- (C) This option places the actions in a confusing order, which disrupts the clarity of the sentence.

- (D) This option is the clearest, with proper sequence and punctuation. It maintains readability and structure.

- (E) This option is too wordy and awkward, introducing unnecessary complexity.

Conclusion:

Option (D) is the best answer because it is clear, concise, and grammatically correct.

Quick Tip

In sentences with multiple actions, make sure the sequence of events is clear and maintain grammatical structure to avoid confusion.

38. Since the average test score of students enrolled in charter schools were rising 7.5 percent in the spring, many educators concluded that the system was working.

(A) Since the average test score of students enrolled in charter schools were rising 7.5 percent in the spring, many educators concluded that the system was working.

(B) Since the average test score of students enrolled in charter schools were rising 7.5 percent in the spring, many educators concluded that the system had worked.

- (C) Since the average test score of students enrolled in charter schools rose 7.5 percent in the spring, many educators concluded that the system was working.
- (D) As the average test score of students enrolled in charter schools rose 7.5 percent in the spring, many educators concluded that the system was working.
- (E) As the average test score of students enrolled in charter schools rose 7.5 percent in the spring, many educators concluded that the system had worked.

Correct Answer: (C) Since the average test score of students enrolled in charter schools rose 7.5 percent in the spring, many educators concluded that the system was working.

Solution:

Step 1: Subject-verb agreement and past tense consistency.

The verb "rose" correctly agrees with the singular subject "average test score." "Was working" also maintains consistent past tense.

Step 2: Review the options.

- (A) The verb "were rising" is incorrect because the subject is singular and requires "was rising" instead.
- (B) The verb "were rising" is incorrect, and "had worked" is not appropriate in this context.
- (C) Correct; the verb "rose" agrees with the singular subject and maintains consistent past tense.
- (D) "As" is unnecessary here and introduces a subtle change in meaning.
- (E) "Had worked" is incorrect, as the sentence is referring to an ongoing process.

Conclusion:

Option (C) is the best answer because it maintains proper subject-verb agreement and tense consistency.

Quick Tip

Pay attention to subject-verb agreement and use the correct tense to maintain consistency in the sentence.

39. The police chief argued that first-time offenders who have no high school diploma but who have families with a record of crime will probably have the law again.

- (A) who have no high school diploma but who have families with a record of crime will probably have the law again
- (B) who have no high school diploma but who have families with a criminal record will probably offend again
- (C) who have no high school diploma but whose families have criminal records will probably offend again
- (D) who have no high school diploma and whose families have a criminal record will probably offend again
- (E) who have no high school diploma and whose families have criminal records will probably have the law again

Correct Answer: (C) who have no high school diploma but whose families have criminal records will probably offend again

Solution:

Step 1: Clarity and sentence structure.

Option (C) uses proper parallel structure and is grammatically correct. "Whose" is the correct possessive form here.

Step 2: Review the options.

- (A) "Have the law again" is awkward and incorrect in this context.
- (B) "Criminal record" should be "criminal records" for consistency, and "offend again" is better than "have the law again."
- (C) This is the best option, as it is clear and grammatically correct.
- (D) "And" is unnecessary in this sentence, as "but" is already used.
- (E) "Have the law again" is unclear and awkward.

Conclusion:

Option (C) is the best because it is grammatically correct and clear.

Quick Tip

Ensure clarity and correct parallel structure when expressing ideas with multiple subjects and actions in the sentence.

40. Like the power-generating apparatus of a conventional car, that of a hybrid car depends on a combustible fuel to generate power.

- (A) that of a hybrid car depends on
- (B) hybrid cars depend on
- (C) hybrid cars' power-generating apparatus are dependent on
- (D) that of a hybrid car's is dependent on
- (E) that of hybrid cars depend on

Correct Answer: (A) that of a hybrid car depends on

Solution:

Step 1: Review sentence structure.

The sentence needs to be clear and maintain proper subject-verb agreement. Option (A) is the most concise and grammatically correct.

Step 2: Review the options.

- (A) Correct; maintains proper agreement and clarity.
- (B) Incorrect; "hybrid cars depend on" does not make sense in this context, as the sentence should compare the apparatuses.
- (C) The possessive construction "hybrid cars'" is unnecessary here and makes the sentence awkward.
- (D) "Hybrid car's" introduces unnecessary possessiveness.
- (E) "That of hybrid cars depend" is incorrect in terms of subject-verb agreement.

Conclusion:

Option (A) is correct because it keeps the sentence grammatically sound and clear.

Quick Tip

Ensure proper subject-verb agreement and clarity when comparing two things in a sentence.

41. Since red flags are likely to be raised at the IRS by the reporting of gambling income, business owners who declare their income as business revenue is less likely to receive an audit.

(A) Since red flags are likely to be raised at the IRS by the reporting of gambling income, business owners who declare their income as business revenue is less likely to receive an audit.

(B) Because the reporting of gambling income is likely to raise red flags at the IRS, business owners who declare their income as business revenue can reduce their chances of receiving an audit by declaring that income as business revenue.

(C) Business owners can reduce their chances of receiving an audit by declaring the income as business revenue.

(D) Their chances of receiving an audit are reduced by business owners who report that income as business revenue, because the reporting of gambling income is likely to raise red flags at the IRS.

(E) The reporting of that income as business revenue can reduce the chances of business owners receiving an audit, because of the red flags not having been raised at the IRS by the reporting of gambling income.

Correct Answer: (B) Because the reporting of gambling income is likely to raise red flags at the IRS, business owners who declare their income as business revenue can reduce their chances of receiving an audit by declaring that income as business revenue.

Solution:

Step 1: Focus on clarity and meaning.

The sentence describes how reporting gambling income as business revenue can affect the likelihood of an audit by the IRS. Option (B) is the most detailed and precise, clarifying both the process and the result.

Step 2: Review the options.

- (A) This option contains a subject-verb agreement error. The phrase “business owners... is less likely” should be “are less likely” to agree with the plural subject “business owners.”
- (B) This option provides the clearest, most complete explanation of the relationship between reporting gambling income and the audit process, with proper clarity and structure.
- (C) This option oversimplifies the relationship, leaving out the connection to red flags raised by the IRS and the role of reporting gambling income.
- (D) This option is grammatically awkward and unnecessarily convoluted.
- (E) This option is unclear, especially with the phrase “because of the red flags not having been raised.” The structure is awkward and does not express the idea as clearly as option (B).

Conclusion:

Option (B) is the best answer because it clearly and logically explains the relationship between declaring gambling income as business revenue and reducing the likelihood of an audit.

Quick Tip

Focus on the clarity and logical flow of the sentence, and ensure subject-verb agreement and proper grammatical structure.
