GED Math Practice Test (Sample)

Study Guide

Everything you need from our exam experts!

Questions

1. What is a straight angle?

A. An angle that measures exactly 180 degrees

B. An angle that measures less than 90 degrees

C. An angle that measures more than 180 degrees

D. An angle that measures 360 degrees

2. Converting 25% to a decimal results in what?

A. 0.1

B. 0.25

C. 0.5

D. 0.75

3. In the formula for volume (v=(pi X r squared)h), what does the "r" represent?

A. Rate

B. Radius

C. Rectangle

D. Result

4. What is the area of a triangle with a base of 12 cm and height of 5 cm?

A. 20 cm^2

B. 24 cm^2

C. 30 cm^2

D. 60 cm^2

5. When dividing, what is the number you divide by called?

A. Difference

B. Divisor

C. Product

D. Quotient

6. If the angles of a triangle are in the ratio 2:3:4, what is the measure of the smallest angle?

A. 30 degrees

B. 40 degrees

C. 50 degrees

D. 60 degrees

7. What is a variable in mathematical expressions?

A. A comparison of two numbers

B. A number being multiplied to a variable

C. A symbol used to represent a variable quantity

D. The initial point of an angle

8. In the equation y = mx + b, what does 'm' represent?

A. Y-intercept

B. Slope

C. X-value

D. Y-value

9. What is a characteristic of complementary angles?

A. They sum to 180 degrees

B. They sum to 90 degrees

C. They are equal in measure

D. They are both obtuse angles

10. What is the value of the expression 4(3 + 2) - 6?

A. 10

B. 12

C. 14

D. 16

Answers

1. A
2. B
3. B
4. C
5. A
6. B
7. C
8. B
9. B
10. C

Explanations

1. What is a straight angle?

A. An angle that measures exactly 180 degrees

B. An angle that measures less than 90 degrees

C. An angle that measures more than 180 degrees

D. An angle that measures 360 degrees

A straight angle is defined as an angle that measures exactly 180 degrees. This means that when two rays emerge from a single point and point directly opposite each other, they create a straight line, which is represented by a 180-degree angle. This is a fundamental concept in geometry, distinguishing a straight angle from other types of angles, like acute angles (which are less than 90 degrees) and reflex angles (which are greater than 180 degrees but less than 360 degrees). A straight angle serves as a key reference point when discussing the measurement and classification of angles.

2. Converting 25% to a decimal results in what?

A. 0.1

B. 0.25

C. 0.5

D. 0.75

To convert a percentage to a decimal, you divide the percentage value by 100. In this case, 25% can be expressed mathematically as: 25% = 25/100 When you perform the division, 25 divided by 100 equals 0.25. Therefore, the correct conversion of 25% to a decimal is 0.25. This process of moving the decimal point two places to the left is a straightforward method to switch between percentages and decimals, confirming that the correct answer is indeed 0.25.

3. In the formula for volume (v=(pi X r squared)h), what does the "r" represent?

A. Rate

B. Radius

C. Rectangle

D. Result

In the formula for volume of a cylinder, represented by \(v = \pi r^2 h \), the "r" specifically stands for the radius of the base of the cylinder. The radius is the distance from the center of the circular base to the edge. In this context, you are calculating the area of the circular base first by squaring the radius (hence \(r^2 \)) and then multiplying by \(\pi \), which is a mathematical constant that represents the ratio of a circle's circumference to its diameter. The area of the base is then multiplied by the height (h) of the cylinder to find the total volume. This understanding is crucial because the volume depends directly on the size of the radius; a larger radius would significantly increase the volume of the cylinder. In contrast, the other options do not apply to this formula, as they pertain to different concepts that are not relevant to calculating the volume of a cylinder.

4. What is the area of a triangle with a base of 12 cm and height of 5 cm?

A. 20 cm²

B. 24 cm²

C. 30 cm²

D. 60 cm²

To find the area of a triangle, you can use the formula: \[\text{Area} = \frac{1}{2} \times \text{base} \times \text{height} \] In this case, the base of the triangle is 12 cm, and the height is 5 cm. Plugging in these values into the formula gives: \[\text{Area} = \frac{1}{2} \times 12 \, \text{cm} \times 5 \, \text{cm} \] Calculating this step-by-step: 1. First, multiply the base by the height: \[12 \, \text{cm} \times 5 \, \text{cm} = 60 \, \text{cm}^2 \] 2. Then, multiply by \(\frac{1}{2} \): \[\frac{1}{2} \times 60 \, \text{cm}^2 = 30 \, \text{cm}^2 \] Therefore, the area of the triangle is 30 cm². This confirms that the correct choice reflects

5. When dividing, what is the number you divide by called?

A. Difference

B. Divisor

C. Product

D. Quotient

The term used for the number you divide by in a division problem is "divisor." When you perform a division, you take a dividend (the number being divided) and divide it by the divisor. The result of that division is called the quotient. In this context, the term "difference" refers to the result of subtraction, not division. "Product" is the result of multiplication, and "quotient" is the result of division but does not represent the number being divided by. Therefore, the correct term for the number used to divide is indeed the divisor.

6. If the angles of a triangle are in the ratio 2:3:4, what is the measure of the smallest angle?

A. 30 degrees

B. 40 degrees

C. 50 degrees

D. 60 degrees

To determine the measure of the smallest angle in a triangle where the angles are in the ratio of 2:3:4, start by denoting each angle based on this ratio. Let's assign the angles as follows: - The first angle = 2x - The second angle = 3x - The third angle = 4x Since the sum of the angles in any triangle is always 180 degrees, we can set up the following equation based on the sum of these angles: 2x + 3x + 4x = 180 degrees Combining the terms on the left-hand side gives: 9x = 180 degrees Now, to find x, divide both sides of the equation by 9: x = 180 degrees / 9 x = 20 degrees Next, we can find the measure of each angle by substituting x back into the expressions for the angles: - The first angle (smallest) = 2x = 2(20 degrees) = 40 degrees - The second angle = 3x = 3(20 degrees) = 60 degrees - The third angle = 4x = 4(20 degrees) = 80 degrees

7. What is a variable in mathematical expressions?

A. A comparison of two numbers

B. A number being multiplied to a variable

C. A symbol used to represent a variable quantity

D. The initial point of an angle

A variable in mathematical expressions is a symbol that is used to represent a quantity that can change or vary. It is not a comparison of two numbers, a number being multiplied to a variable, or the initial point of an angle. Variables are placeholders for unknown or changing values in equations and expressions. Therefore, the correct answer is C: A symbol used to represent a variable quantity.

8. In the equation y = mx + b, what does 'm' represent?

A. Y-intercept

B. Slope

C. X-value

D. Y-value

In the equation \(y = mx + b \), the variable 'm' represents the slope of the line. The slope is a measure of the steepness or inclination of the line and indicates how much 'y' changes for a given change in 'x'. Specifically, it describes the rate at which one variable changes in relation to another; for each unit increase in 'x', 'y' will increase by 'm' units if 'm' is positive, or decrease if 'm' is negative. Understanding the slope is crucial in the context of linear equations as it affects the graph of the line. A slope of zero indicates a horizontal line, while an undefined slope (in the case of a vertical line) cannot be expressed by this equation. In contrast, the other options describe different components of the equation: the y-intercept is represented by 'b', while 'x' and 'y' represent the independent and dependent variables, respectively. Thus, the identification of 'm' as the slope is indispensable for interpreting linear relationships in mathematics.

9. What is a characteristic of complementary angles?

A. They sum to 180 degrees

B. They sum to 90 degrees

C. They are equal in measure

D. They are both obtuse angles

Complementary angles are defined specifically by the sum of their measures. When two angles are considered complementary, their measures always add up to exactly 90 degrees. For example, if one angle measures 30 degrees, the complementary angle would measure 60 degrees because 30 + 60 = 90. Understanding complementary angles is important in geometry, particularly when solving problems involving right triangles or constructing angle relationships. This definition contrasts other options presented, such as angles summing to 180 degrees, which pertains to supplementary angles instead. Similarly, while complementary angles can indeed be equal in measure (like two 45-degree angles), it is not a defining characteristic, as they can also be different measures that still add up to 90 degrees. Lastly, complementary angles are not restricted to obtuse angles; in fact, both angles must be acute (less than 90 degrees) in order to satisfy the condition of being complementary.

10. What is the value of the expression 4(3 + 2) - 6?

A. 10

B. 12

C. 14

D. 16

To find the value of the expression 4(3 + 2) - 6, you can follow the order of operations, often remembered by the acronym PEMDAS (Parentheses, Exponents, Multiplication and Division (from left to right), Addition and Subtraction (from left to right)). First, calculate the expression inside the parentheses: 3 + 2 equals 5. Next, substitute this value back into the expression: 4(5) - 6. Now, perform the multiplication: 4 times 5 equals 20. Finally, subtract 6 from this result: 20 - 6 equals 14. Thus, the correct value of the expression is 14. This is why the answer is correctly identified as C.