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7th Grade Math Worksheets

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Part 1: Building a Foundation

What is the absolute value of -7?

Hint: Remember that absolute value represents the distance from zero.

○ -7
○ 0
○ 7
○ 14

Which of the following are rational numbers?

Hint: Rational numbers can be expressed as a fraction.

☐ 1/2
☐ √2
☐ 0.75
☐ π

Explain what a ratio is and provide an example.

Hint: Think about how ratios compare two quantities.

List the properties of a right triangle.

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Hint: Consider the angles and sides of the triangle.

1. What is the definition of a right triangle?

2. What is the longest side of a right triangle called?

3. What theorem is used to find the sides of a right triangle?

What is the greatest common factor (GCF) of 18 and 24?

Hint: Think about the factors of both numbers.

○ 2
○ 3
○ 6
○ 12

Part 2: Understanding and Interpretation

If the ratio of cats to dogs is 3:4, how many dogs are there if there are 9 cats?

Hint: Use the ratio to set up a proportion.

○ 3
○ 6
○ 12
○ 15

Which of the following expressions are equivalent to 3(x + 4)?

Hint: Distribute the 3 to both terms inside the parentheses.

☐ 3x + 12
☐ 3x + 4
☐ 12x + 3
☐ 3x + 4x

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Describe how to find the area of a circle and provide an example calculation with a radius of 5 units.

Hint: Use the formula A = πr².

Part 3: Application and Analysis

A recipe requires 2/3 cup of sugar. If you want to make half of the recipe, how much sugar do you need?

Hint: Think about dividing the amount by 2.

○ 1/3 cup
○ 1/2 cup
○ 1/4 cup
○ 1/6 cup

You have a rectangle with a length of 8 cm and a width of 3 cm. Which of the following are correct calculations?

Hint: Use the formulas for area and perimeter.

☐ Area = 24 cm²
☐ Perimeter = 22 cm
☐ Area = 11 cm²
☐ Perimeter = 16 cm

Write an equation to represent the following situation: "Three times a number decreased by 5 is equal to 16." Solve for the number.
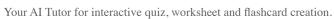
Hint: Set up the equation and isolate the variable.

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Part 4: Evaluation and Creation

Which of the following graphs represents a proportional relationship?

Hint: Consider the characteristics of proportional relationships.

○ A straight line through the origin
○ A parabola
○ A horizontal line
○ A vertical line

Analyze the following data set: 5, 7, 7, 10, 12. Which of the following statements are true?

Hint: Calculate the mean, median, mode, and range.

☐ The mean is 8.2
☐ The median is 7
☐ The mode is 7
☐ The range is 7

Analyze the relationship between the circumference and diameter of a circle. What is the constant of proportionality, and how is it used?

Hint: Consider the formula for circumference.

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Which of the following scenarios best represents a situation where the least common multiple (LCF) is used?

Hint: Think about events that repeat over time.

○ Dividing a pizza equally among friends
○ Scheduling two events that repeat every 4 and 6 days
○ Finding the average of test scores
○ Calculating the perimeter of a rectangle

Evaluate the following statements about solving inequalities. Which are true?

Hint: Consider the rules for manipulating inequalities.

☐ Adding the same number to both sides maintains the inequality
☐ Multiplying both sides by a negative number reverses the inequality
☐ Subtractin the same number from both sides reverses the inequality
☐ Dividing both sides by a positive number maintains the inequality

Create a real-world problem involving a proportion and solve it. Describe the steps you took to solve the problem.

Hint: Think about situations where proportions are used.

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