

7th Grade Math Worksheets Answer Key PDF

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Part 1: Building a Foundation

What is the absolute value of -7?

undefined. -7

undefined. 0

undefined. 7 ✓

undefined. 14

The absolute value of -7 is 7.

Which of the following are rational numbers?

undefined. $\frac{1}{2}$ ✓

undefined. $\sqrt{2}$

undefined. 0.75 ✓

undefined. π

Rational numbers include $\frac{1}{2}$ and 0.75.

Explain what a ratio is and provide an example.

A ratio is a comparison of two quantities, often expressed as a fraction. For example, the ratio of 2 apples to 3 oranges can be written as 2:3.

List the properties of a right triangle.

1. What is the definition of a right triangle?

A triangle with one angle measuring 90 degrees.

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

The hypotenuse.

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

The Pythagorean theorem.

A right triangle has one angle that is 90 degrees, the sides opposite the angles are called legs and hypotenuse, and it follows the Pythagorean theorem.

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

undefined. 2

undefined. 3

undefined. 6 ✓

undefined. 12

The GCF of 18 and 24 is 6.

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?

undefined. 3

undefined. 6

undefined. 12 ✓

undefined. 15

If there are 9 cats, there are 12 dogs.

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

undefined. $3x + 12$ ✓

undefined. $3x + 4$

undefined. $12x + 3$

undefined. $3x + 4x$

The equivalent expression is $3x + 12$.

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

To find the area of a circle, use the formula $A = \pi r^2$. For a radius of 5, the area is 25π .

Part 3: Application and Analysis

A recipe requires $\frac{2}{3}$ cup of sugar. If you want to make half of the recipe, how much sugar do you need?

undefined. $\frac{1}{3}$ cup ✓

undefined. $\frac{1}{2}$ cup

undefined. $\frac{1}{4}$ cup

undefined. $\frac{1}{6}$ cup

You need $\frac{1}{3}$ cup of sugar.

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

undefined. Area = 24 cm^2 ✓

undefined. Perimeter = 22 cm ✓

undefined. Area = 11 cm^2

undefined. Perimeter = 16 cm

The correct area is 24 cm^2 and the correct perimeter is 22 cm.

Write an equation to represent the following situation: "Three times a number decreased by 5 is equal to 16." Solve for the number.

The equation is $3x - 5 = 16$. Solving gives $x = 7$.

Part 4: Evaluation and Creation

Which of the following graphs represents a proportional relationship?

undefined. A straight line through the origin ✓

undefined. A parabola

undefined. A horizontal line

undefined. A vertical line

A straight line through the origin represents a proportional relationship.

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

undefined. **The mean is 8.2 ✓**

undefined. **The median is 7 ✓**

undefined. **The mode is 7 ✓**

undefined. The range is 7

The true statements are that the median is 7, the mode is 7, and the mean is 8.2.

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

The constant of proportionality is π , which relates the circumference to the diameter as $C = \pi D$.

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

undefined. Dividing a pizza equally among friends

undefined. **Scheduling two events that repeat every 4 and 6 days ✓**

undefined. Finding the average of test scores

undefined. Calculating the perimeter of a rectangle

Scheduling two events that repeat every 4 and 6 days represents a situation where LCM is used.

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

undefined. **Adding the same number to both sides maintains the inequality ✓**

undefined. **Multiplying both sides by a negative number reverses the inequality ✓**

undefined. Subtractin the same number from both sides reverses the inequality

undefined. **Dividing both sides by a positive number maintains the inequality ✓**

The true statements are that adding the same number to both sides maintains the inequality, multiplying by a negative reverses it, and dividing by a positive maintains it.

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

A real-world problem could involve mixing ingredients in a recipe. The steps include identifying the ratio and calculating the amounts needed.