Pre Algebra Worksheet Questions and Answers PDF

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Part 1: Building a Foundation

What is the result of 7 + 5?

Hint: Think about basic addition.

- ◯ 10
- ◯ 11
- ◯ **12 ✓**
- ◯ 13

> The correct answer is 12.

Which of the following are prime numbers?

Hint: Recall the definition of prime numbers.

- ☐ **2 ✓**
- ☐ 4
- ☐ **5 ✓**
- ☐ 9

> The prime numbers from the options are 2 and 5.

Explain the difference between a factor and a multiple.

Hint: Consider how each term relates to numbers.

A factor is a number that divides another number without a remainder, while a multiple is the result of multiplying a number by an integer.

List the first three multiples of 6.

Hint: Think about multiplying 6 by the first three whole numbers.

1. First multiple of 6

6

2. Second multiple of 6

12

3. Third multiple of 6

18

The first three multiples of 6 are 6, 12, and 18.

What is the value of 3^2?

Hint: Remember that exponentiation means multiplying the base by itself.

- ◯ 6
- ◯ **9** ✓

- ◯ 12
- ◯ 15

> The correct answer is 9.

Part 2: Understanding and Interpretation

Which property of addition is demonstrated by the equation 4 + 5 = 5 + 4?

Hint: Think about how the order of numbers affects the sum.

- ◯ Associative Property
- ◯ **Communtative Property ✓**
- ◯ Distributative Property
- ◯ Identity Property

> This demonstrates the Commutative Property.

Which of the following expressions are equivalent to 3/4?

Hint: Consider how fractions can be simplified or scaled.

- ☐ **6/8 ✓**
- ☐ **9/12 ✓**
- ☐ **12/16 ✓**
- ☐ 15/20

> The equivalent expressions are 6/8, 9/12, and 12/16.

Describe how to convert a fraction to a decimal.

Hint: Think about division.

To convert a fraction to a decimal, divide the numerator by the denominator.

Part 3: Application and Analysis

If a rectangle has a length of 8 units and a width of 3 units, what is its area?

Hint: Use the formula for the area of a rectangle.

- ◯ 11 square units
- ◯ **24 square units ✓**
- ◯ 26 square units
- ◯ 30 square units

The area is 24 square units.

Which of the following are solutions to the equation x + 3 = 7?

Hint: Think about what value of x makes the equation true.

- ☐ 3
- ☐ **4 ✓**
- ☐ 5
- ☐ 6

The solution is 4.

Solve the equation 2x - 5 = 9 and explain your steps.

Hint: Isolate x on one side of the equation.

The solution is x = 7, found by adding 5 to both sides and then dividing by 2.

Which of the following graphs represents a linear relationship?

Hint: Consider the shape of the graph.

- ◯ **A graph with a straight line ✓**
- ◯ A graph with a curved line
- ◯ A graph with a zigzag line
- ◯ A graph with a dotted line

> The graph with a straight line represents a linear relationship.

Which of the following statements are true about the number line?

Hint: Think about the arrangement of numbers on the line.

- ☐ **Negative numbers are to the left of zero. ✓**
- ☐ **Positive numbers are to the right of zero. ✓**
- ☐ **Zero is neither positive nor negative. ✓**
- ☐ The number line is finite.

> The true statements are A, B, and C.

Analyze the expression 3(x + 4) - 2x and simplify it.

Hint: Distribute and combine like terms.

> **The simplified expression is x + 12.**

Part 4: Evaluation and Creation

Which of the following statements best evaluates the expression 2(x - 3) + 4 = 10?

Hint: Solve for x to find the correct statement.

- ◯ The solution is x = 4.
- ◯ **The solution is x = 5. ✓**
- ◯ The solution is x = 6.
- ◯ The solution is x = 7.

> The solution is x = 5.

Which of the following are valid methods to solve the equation x^2 = 16?

Hint: Consider different algebraic techniques.

- ☐ **Factoring ✓**
- ☐ **Taking the square root ✓**
- ☐ **Completing the square ✓**
- ☐ Graphin

> The valid methods are factoring, taking the square root, and completing the square.

Create a real-world problem that can be solved using a linear equation, and provide the solution.

Hint: Think about a scenario involving a constant rate.

> **An example could be calculating the cost of items at a fixed price.**

Propose two different methods to solve the equation x + 5 = 12 and explain each method briefly.

Hint: Consider both algebraic and graphical methods.

1. Method 1

> Subtract 5 from both sides.

2. Method 2

> Use a number line to visualize the solution.

> One method is to subtract 5 from both sides, and another is to use a number line.