# Questions on Expressions and Equations (Grade 8)

## Simplifying Expressions

1. Simplify: 3x(2x - 5) - 4(3x - 2) + 2x²

2. Expand and simplify: (x + 2)(x - 3) + (2x - 1)²

3. Simplify: (2x² + 5x - 3) / (x + 3) if x ≠ -3

## Solving Equations

4. Solve for x: 3(2x - 4) = 4(x + 2) - 6

5. Solve for x: (2x - 1) / 3 - (4x + 5) / 2 = 1

6. Solve for x: 5x² - 3x - 2 = 0

## Systems of Equations

7. Solve the system of equations:
 2x + 3y = 12
 4x - y = 5

8. Solve for x and y:
 x² + y² = 25
 x - y = 3

## Word Problems

9. Rectangle Dimensions: The perimeter of a rectangle is 48 cm. The length is 4 cm more than twice the width. Find the dimensions of the rectangle.

10. Number Puzzle: The sum of three consecutive integers is 84. Find the integers.

11. Mixture Problem: A chemist has two solutions: one is 25% acid, and the other is 40% acid. How many liters of each should be mixed to make 30 liters of a 35% acid solution?