# Grade 8 Questions on Quadratic Equations

## Solving Quadratic Equations

1. Solve for x: x² - 7x + 10 = 0

2. Solve for x: 2x² + 3x - 2 = 0

3. Solve for x: 4x² - 9 = 0

4. Solve for x: x² + 6x = 16

5. Solve for x: 3x² - 2x = 0

## Forming Quadratic Equations

6. Form the quadratic equation whose roots are 3 and -5.

7. A quadratic equation has roots 2 and 7. Write the equation in standard form.

## Word Problems

8. Projectile Motion: A ball is thrown upwards with a velocity of 20 m/s. The height of the ball at any time t seconds is given by the equation:  
 h = -5t² + 20t + 2  
 a) Find the time when the ball reaches its maximum height.  
 b) What is the maximum height reached by the ball?  
 c) After how many seconds does the ball hit the ground?

9. Area of a Rectangle: The length of a rectangle is 3 meters more than its width. The area of the rectangle is 40 m². Find the dimensions of the rectangle.

10. Product of Numbers: The product of two consecutive positive integers is 72. Find the integers.

11. Speed Problem: A car travels a distance of x km at a speed of x + 5 km/h. The time taken is 2 hours. Form a quadratic equation to find x, and solve for the car's speed.