

Class 10 Mathematics - Quadratic Equations

Name: _____

Date: _____

Medium Worksheet 4

Questions

1. Solve:

$$x^2 - 13x + 42 = 0$$

2. Solve:

$$2x^2 - x - 15 = 0$$

3. Solve:

$$x^2 + 2x - 35 = 0$$

4. The sum of two numbers is 16 and their product is 63. Form and solve a quadratic equation to find the numbers.

5. A rectangle has area 48 m^2 and length 2 m more than breadth. Find its dimensions.

6. Why is factorisation useful in solving quadratic equations?

Answer Key

1.

$$(x - 6)(x - 7)$$

Roots = 6, 7

2.

$$(2x + 5)(x - 3)$$

$$\text{Roots} = -5/2, 3$$

3.

$$(x + 7)(x - 5)$$

$$\text{Roots} = -7, 5$$

4.

Let one number = x

Other number = $16 - x$

$$x(16 - x) = 63$$

$$x^2 - 16x + 63 = 0$$

$$(x - 7)(x - 9) = 0$$

Numbers = 7 and 9

5.

Let breadth = x

Length = $x + 2$

$$x(x + 2) = 48$$

$$x^2 + 2x - 48 = 0$$

$$(x + 8)(x - 6) = 0$$

Breadth = 6 m

Length = 8 m

6. It converts the quadratic equation into simpler linear factors.

