Pakistan School
Kingdom of Bahrain

WELCOME CLASS 10TH (SCIENCE)

Quadratic Equations
Factorization Method

Objectives

Students will be able to:

Solve quadratic equations using factorization method

Q2. Solve by factorization

$(i)\ x^2 - x - 20 = 0$

$x^2 - 5x + 4x - 20 = 0$

$x(x-5) + 4(x-5) = 0$

$(x-5)(x+4) = 0$

$x - 5 = 0 \quad or \quad x + 4 = 0$

$x = 5 \quad or \quad x = -4$

Solution set is $\{-4, 5\}$

1x20=20
2x10=20
4x5=20

$$(vi)\ \frac{2}{x-9}=\frac{1}{x-3}-\frac{1}{x-4}$$

$$Solution:\ \frac{2}{x-9}=\frac{1}{x-3}-\frac{1}{x-4}$$

$$\frac{2}{x-9}=\frac{(x-4)-(x-3)}{(x-4)(x-3)}$$

$$\frac{2}{x-9}=\frac{x-4-x+3}{x^2-4x-3x+12}$$

$$\frac{2}{x-9}=\frac{-1}{x^2-7x+12}$$

$$2(x^2-7x+12)=-1(x-9)$$

$$2x^2-14x+24=-x+9$$

$$2x^2-14x+x+24-9=0$$

$$2x^2-13x+15=0$$

$$2x^2-13x+15=0 \longrightarrow$$

2x15=30

$$2x^2-10x-3x+15=0$$

$$2x(x-5)-3(x-5)=0$$

$$(x-5)(2x-3)=0$$

$$x-5=0 \quad 2x-3=0$$

$$x=5 \qquad x=\frac{3}{2}$$

$$Solution\ set\ is\ \left\{5,\frac{3}{2}\right\}$$

30
1x30=30
2x15=30
3x10=30
5x6=30

Plenary

Q. Solve by factorization

$x^2 - 11x = 152$

Solution

$$Solution: x^2 - 11x = 152$$

$$x^2 - 19x + 8x - 152 = 0$$

$$x(x-19) + 8(x-19) = 0$$

$$x - 19 = 0 \qquad x + 8 = 0$$

$$x = 19 \qquad x = -8$$

$$Solution\ set\ is \{19, -8\}$$

Homework

Ex 1.1 Q2(ii, v)