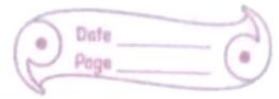


EXERCISE : 402



$$1 \text{ (i)} \quad x^2 - 3x - 10 = 0$$

$$\Rightarrow x^2 + 2x - 5x - 10 = 0$$

$$\Rightarrow x(x+2) - 5(x+2) = 0$$

$$\Rightarrow (x-5)(x+2) = 0$$

$$\begin{array}{l|l} x-5=0 & x+2=0 \\ \Rightarrow x=5 & \Rightarrow x=-2 \end{array}$$

$$x = 5, \quad x = -2$$

$$(ii) \quad 2x^2 + x - 6 = 0$$

$$\Rightarrow 2x^2 + 4x - 3x - 6 = 0$$

$$\Rightarrow 2x(x+2) - 3(x+2) = 0$$

$$\Rightarrow (2x-3)(x+2) = 0$$

$$\begin{array}{l|l} 2x-3=0 & x+2=0 \\ 2x=3 & x=-2 \end{array}$$

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

$$\text{So } x = \frac{3}{2} \text{ and } x = -2$$

$$(iii) \quad \sqrt{2}x^2 + 7x + 5\sqrt{2} = 0$$

$$\Rightarrow \sqrt{2}x^2 + 2x + 5x + 5\sqrt{2} = 0$$

$$\Rightarrow \sqrt{2}x^2 + (\sqrt{2} \times \sqrt{2})x + 5x + 5\sqrt{2} = 0$$

$$\Rightarrow (\sqrt{2}x + 5)(x + \sqrt{2}) = 0$$

$$\begin{array}{l|l} \sqrt{2}x + 5 = 0 & x + \sqrt{2} = 0 \end{array}$$

$$\Rightarrow x = \frac{-5}{\sqrt{2}} \quad \Rightarrow x = -\sqrt{2}$$

$$(iv) \quad 2x^2 - x + \frac{1}{8} = 0$$

$$\Rightarrow 2x^2 - x + \frac{1}{8} = 0$$

$$\Rightarrow 16x^2 - 8x + 1 = 0$$

$$\Rightarrow 16x^2 - 4x - 4x + 1 = 0$$

$$\Rightarrow 4x(4x - 1) - 1(4x - 1) = 0$$

$$\Rightarrow (4x - 1)(4x - 1) = 0$$

$$4x - 1 = 0$$

$$\Rightarrow x = \frac{1}{4}$$

$$4x - 1 = 0$$

$$\Rightarrow x = \frac{1}{4}$$

$$(v) \quad 100x^2 - 20x + 1 = 0$$

$$\Rightarrow 10x(10x - 1) - 1(10x - 1) = 0$$

$$\Rightarrow (10x - 1)(10x - 1) = 0$$

$$10x - 1 = 0$$

$$\Rightarrow x = \frac{1}{10}$$

$$10x - 1 = 0$$

$$\Rightarrow x = \frac{1}{10}$$