



#### Exercise 8A

Q1

**Answer :**

$$\begin{aligned}8x + 3 &= 27 + 2x \\ \Rightarrow 8x - 2x &= 27 - 3 \\ \Rightarrow 6x &= 24 \\ \Rightarrow x &= \frac{24}{6} = 4 \\ \therefore x &= 4\end{aligned}$$

Q2

**Answer :**

$$\begin{aligned}5x + 7 &= 2x - 8 \\ \Rightarrow 5x - 2x &= -8 - 7 \\ \Rightarrow 3x &= -15 \\ \Rightarrow x &= \frac{-15}{3} = -5 \\ \therefore x &= -5\end{aligned}$$

Q3.

**Answer :**

$$2z - 1 = 14 - z$$

$$\Rightarrow 2z + z = 14 + 1$$

$$\Rightarrow 3z = 15$$

$$\Rightarrow z = \frac{15}{3} = 5$$

$$\therefore z = 5$$

Q4.

**Answer :**

$$9x + 5 = 4(x - 2) + 8$$

$$\Rightarrow 9x + 5 = 4x - 8 + 8$$

$$\Rightarrow 9x + 5 = 4x$$

$$\Rightarrow 9x - 4x = -5$$

$$\Rightarrow 5x = -5$$

$$\Rightarrow x = \frac{-5}{5} = -1$$

$$\therefore x = -1$$

Q5.

**Answer :**

$$\frac{7y}{5} = y - 4$$

**By cross multiplication :**

$$\Rightarrow 7y = 5(y - 4)$$

$$\Rightarrow 7y = 5y - 20$$

$$\Rightarrow 7y - 5y = -20$$

$$\Rightarrow 2y = -20$$

$$\Rightarrow y = \frac{-20}{2} = -10$$

$$\therefore y = -10$$

Q6.

Answer :

$$3x + \frac{2}{3} = 2x + 1$$

$$\Rightarrow 3x - 2x = 1 - \frac{2}{3}$$

$$\Rightarrow x = \frac{1}{1} - \frac{2}{3} \quad \left( \text{L.C.M. of 1 and 3 is 3} \right) \quad \Rightarrow x =$$

$$\frac{3-2}{3}$$

$$\Rightarrow x = \frac{1}{3}$$

$$\Rightarrow x = \frac{1}{3}$$

$$\therefore x = \frac{1}{3}$$

Q7.

Answer :

$$15(y - 4) - 2(y - 9) + 5(y + 6) = 0$$

$$\Rightarrow 15y - 60 - 2y + 18 + 5y + 30 = 0$$

$$\Rightarrow 15y - 2y + 5y - 60 + 18 + 30 = 0$$

$$\Rightarrow 18y - 12 = 0$$

$$\Rightarrow 18y = 12$$

$$\Rightarrow y = \frac{12}{18} = \frac{2}{3}$$

$$\therefore y = \frac{2}{3}$$

Q8.

Answer :

$$3(5x - 7) - 2(9x - 11) = 4(8x - 13) - 17$$

$$\Rightarrow 15x - 21 - 18x + 22 = 32x - 52 - 17$$

$$\Rightarrow 15x - 18x - 21 + 22 = 32x - 69$$

$$\Rightarrow -3x + 1 = 32x - 69$$

$$\Rightarrow 1 + 69 = 32x + 3x$$

$$\Rightarrow 70 = 35x$$

$$\Rightarrow 35x = 70 \quad \left( \text{by transposition} \right)$$

$$\Rightarrow x = \frac{70}{35} = 2$$

$$\therefore x = 2$$

\*\*\*\*\* END \*\*\*\*\*