Linear Equations in One Variable Ex 9.1 Q1

Answer :

$9\frac{1}{4} = y - 1\frac{1}{3}$

or $\frac{37}{4} + \frac{4}{3} = y$ or $y = \frac{127}{12}$ $\therefore$ $y = \frac{127}{12}$ for the given equation. Check : L.H.S $= 9\frac{1}{4}$ R.H.S $= \frac{127}{12} - 1\frac{1}{3} = \frac{127}{12} - \frac{4}{3} = \frac{127-16}{12} = \frac{111}{12} = 9\frac{1}{4}$ So, L.H.S = R.H.S for $y = \frac{127}{12}$

Linear Equations in One Variable Ex 9.1 Q2

Answer :

$$\frac{5x}{3} + \frac{2}{5} = 1$$

$$\Rightarrow \quad \frac{5x}{3} = 1 - \frac{2}{5}$$

$$\Rightarrow \quad \frac{5x}{3} = \frac{3}{5}$$

$$\Rightarrow \quad x = \frac{3}{5} \times \frac{3}{5} = \frac{9}{25}$$

Verification :

$$\text{L.H.S.} = \frac{5}{3} \times \frac{9}{25} + \frac{2}{5} = \frac{3}{5} + \frac{2}{5} = 1$$

$$\text{R.H.S.} = 1$$

$$\therefore \text{ L.H.S.} = \text{R.H.S. for } x = \frac{9}{25}$$

Linear Equations in One Variable Ex 9.1 Q3

Answer :

$$\frac{x}{2} + \frac{x}{3} + \frac{x}{4} = 13$$

$$\Rightarrow \quad \frac{x \times 6 + x \times 4 + x \times 3}{12} = 13$$

$$\Rightarrow \quad \frac{13x}{12} = 13$$

$$\Rightarrow \quad x = 13 \times \frac{12}{13} = 12$$

Verification :

$$\text{L.H.S.} = \frac{12}{2} + \frac{12}{3} + \frac{12}{4} = 6 + 4 + 3 = 13 = \text{R.H.S.}$$

Linear Equations in One Variable Ex 9.1 Q4

Answer :

$\frac{x}{2}+\frac{x}{8}=\frac{1}{8}$

or $\frac{4x+x}{8}=\frac{1}{8}$

or $\frac{5x}{8}=\frac{1}{8}$

or $x=\frac{1}{8}\times\frac{8}{5}=\frac{1}{5}$

Verification :

$\text{L.H.S.}=\frac{1}{2}\times\frac{1}{5}+\frac{1}{8}\times\frac{1}{5}=\frac{1}{10}+\frac{1}{40}=\frac{5}{40}=\frac{1}{8}=\text{R.H.S.}$

Linear Equations in One Variable Ex 9.1 Q5

Answer :

$\frac{2x}{3}-\frac{3x}{8}=\frac{7}{12}$

or $\frac{16x-9x}{24}=\frac{7}{12}$

or $\frac{7x}{24}=\frac{7}{12}$

or $x=\frac{7}{12}\times\frac{24}{7}=2$

Verification :

$\text{L.H.S.}=\frac{4}{3}-\frac{6}{8}=\frac{32-18}{24}=\frac{7}{12}$

$\text{R.H.S.}=\frac{7}{12}$

$\therefore\ \text{R.H.S.}=\text{L.H.S. for } x=2$

********** END **********