Linear equations in one variable Ex 8.2 Q7

Answer :

$x + \frac{1}{2} = \frac{7}{2}$

⇒ Subtracting $\frac{1}{2}$ from both sides, we get

⇒ $x + \frac{1}{2} - \frac{1}{2} = \frac{7}{2} - \frac{1}{2}$

⇒ $x = \frac{7-1}{2} = \frac{6}{2}$

⇒ $x = 3$

Verification:

Substituting $x = 3$ in LHS, we get

LHS $= 3 + \frac{1}{2} = \frac{6+1}{2} = \frac{7}{2}$, and RHS $= \frac{7}{2}$

LHS = RHS

Hence, verified.

Linear equations in one variable Ex 8.2 Q8

Answer :

$10 - y = 6$

Subtracting 10 from both sides, we get

$\Rightarrow 10 - y - 10 = 6 - 10$

$\Rightarrow -y = -4.$

$\Rightarrow$ Multiplying both sides by -1, we get

$\Rightarrow -y \times -1 = -4 \times -1$

$\Rightarrow y = 4$

Verification:

Substituting $y = 4$ in LHS, we get

LHS $= 10 - y = 10 - 4 = 6$ and RHS $= 6$

LHS = RHS

Hence, verified.

Linear equations in one variable Ex 8.2 Q9

Answer :

$7 + 4y = -5$

Subtracting 7 from both sides, we get

$\Rightarrow 7 + 4y - 7 = -5 - 7$

$\Rightarrow 4y = -12$

Dividing both sides by 4, we get

$\Rightarrow y = -12 \ 4$

$\Rightarrow y = -3$

Verification :

Substituting $y = -3$ in LHS, we get

LHS $= 7 + 4y = 7 + 4(-3) = 7 - 12 = -5$, and RHS $= -5$

LHS = RHS

Hence, verified.

Linear equations in one variable Ex 8.2 Q10

Answer :

$\frac{4}{5} - x = \frac{3}{5}$

Subtracting $\frac{4}{5}$ from both sides, we get

$\Rightarrow \frac{4}{5} - x - \frac{4}{5} = \frac{3}{5} - \frac{4}{5}$

$\Rightarrow -x = \frac{3-4}{5}$

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

Multiplying both sides by -1, we get

$\Rightarrow -x \times (-1) = -\frac{1}{5} \times (-1)$

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

Verification:

Substituting $x = \frac{1}{5}$ in LHS, we get

LHS $= \frac{4}{5} - \frac{1}{5} = \frac{4-1}{5} = \frac{3}{5}$, and RHS $= \frac{3}{5}$

LHS = RHS

Hence, verified.

Linear equations in one variable Ex 8.2 Q11

Answer :

$2y - \frac{1}{2} = -\frac{1}{3}$

Adding $\frac{1}{2}$ to both sides, we get

$\Rightarrow 2y - \frac{1}{2} + \frac{1}{2} = -\frac{1}{3} + \frac{1}{2}$

$\Rightarrow 2y = \frac{-2+3}{6}$

$\Rightarrow 2y = \frac{1}{6}$

Dividing both sides by 2, we get

$\Rightarrow \frac{2y}{2} = \frac{1}{6 \times 2}$

$\Rightarrow y = \frac{1}{12}$

Verification:

Substituting $y = \frac{1}{12}$ in LHS, we get

LHS $= 2 \times \left(\frac{1}{12}\right) - \frac{1}{2} = \frac{1}{6} - \frac{1}{2} = \frac{1-3}{6} = \frac{-2}{6} = -\frac{1}{3}$, and RHS $= -\frac{1}{3}$

LHS = RHS

Hence, verified.

Linear equations in one variable Ex 8.2 Q12

Answer :

$14 = \frac{7x}{10} - 8$

Adding 8 to both sides, we get

$\Rightarrow 14 + 8 = \frac{7x}{10} - 8 + 8$

$\Rightarrow 22 = \frac{7x}{10}$

Multiplying both sides by 10, we get

$\Rightarrow 22 \times 10 = \frac{7x}{10} \times 10$

$\Rightarrow 220 = 7x$

Dividing both sides by 7, we get

$\Rightarrow \frac{220}{7} = \frac{7x}{7}$

$\Rightarrow x = \frac{220}{7}$

Verification:

Substituting $x = \frac{220}{7}$ in RHS, we get

LHS = 14, and RHS = $\frac{7\left(\frac{220}{7}\right)}{10} - 8 = \frac{220}{10} - 8 = 22 - 8 = 14$

LHS = RHS

Hence, verified.

Linear equations in one variable Ex 8.2 Q13

Answer :

$3 (x + 2) = 15$

Dividing both sides by 3, we get

$\Rightarrow \frac{3 (x + 2)}{3} = \frac{15}{3}$

$\Rightarrow (x + 2) = 5$

Subtracting 2 from both sides, we get

$\Rightarrow x + 2 - 2 = 5 - 2$

$\Rightarrow x = 3$

Verification:

Substituting x = 3 in LHS, we get

LHS = $3 (x + 2) = 3 (3+2) = 3 \times 5 = 15$, and RHS = 15

LHS = RHS

Hence, verified.

Linear equations in one variable Ex 8.2 Q14

Answer :

$$\frac{x}{4} = \frac{7}{8}$$

Multiplying both sides by 4, we get

$$\Rightarrow \frac{x}{4} \times 4 = \frac{7}{8} \times 4$$

$$\Rightarrow x = \frac{7}{2}$$

<u>Verification:</u>

Substituting $x = \frac{7}{2}$ in LHS, we get

LHS $= \frac{7}{2 \times 4} = \frac{7}{8}$, and RHS $= \frac{7}{8}$

LHS = RHS

Hence, verified.

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