



Linear equations in one variable Ex 8.2 Q7

Answer :

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

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

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

$$\Rightarrow x = \frac{7-1}{2} = \frac{6}{2}$$

$$\Rightarrow x = 3$$

Verification:

Substituting $x = 3$ in LHS, we get

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

$$\text{LHS} = \text{RHS}$$

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

$$\text{LHS} = 10 - y = 10 - 4 = 6 \text{ and RHS} = 6$$

$$\text{LHS} = \text{RHS}$$

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

$$\Rightarrow y = \frac{-12}{4}$$

$$\Rightarrow y = -3$$

Verification :

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

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

$$\text{LHS} = \text{RHS}$$

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

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

$$\text{LHS} = \text{RHS}$$

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

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

$$\text{LHS} = \text{RHS}$$

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

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

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

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

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

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

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

Verification:

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

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

$$\text{LHS} = \text{RHS}$$

Hence, verified.

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