

Linear Equations in One Variable Ex 9.3 Q1

Answer:

$$\frac{2\mathbf{x}-3}{3\mathbf{x}+2} = -\frac{2}{3}$$

or
$$6x - 9 = -6x - 4$$
 (After cross multiplication)

or
$$6x + 6x = -4 + 9$$

or
$$x = \frac{5}{12}$$

 \therefore $x = \frac{5}{12}$ is the solution of the given equation.

Check:

L. H. S. =
$$\frac{2 \times \frac{5}{12} - 3}{3 \times \frac{5}{12} + 2} = \frac{\frac{5}{6} - 3}{\frac{5}{4} + 2} = \frac{\frac{-13}{6}}{\frac{13}{4}} = \frac{-4}{6} = \frac{-2}{3}$$

R. H. S. =
$$\frac{-2}{3}$$

:. L.H.S. = R.H.S. for
$$x = \frac{5}{12}$$

Linear Equations in One Variable Ex 9.3 Q2

Answer:

$$\frac{2-\mathbf{y}}{\mathbf{y}+7} = \frac{3}{5}$$

or
$$10 - 5y = 3y + 21$$
 (After cross multiplication)

or
$$3y + 5y = 10 - 21$$

or
$$8y = -11$$

or
$$y = \frac{-11}{8}$$

 \therefore y = $\frac{-11}{8}$ is the solution of the given equation.

Check:

Substituting $y = \frac{-11}{8}$ in the given equation, we get :

L. H. S. =
$$\frac{2 - \frac{-11}{8}}{\frac{-11}{8} + 7} = \frac{16 + 11}{-11 + 56} = \frac{27}{45} = \frac{3}{5}$$

R.H.S. =
$$\frac{3}{5}$$

$$\therefore$$
 L.H.S. = R.H.S. for $y = \frac{-11}{8}$

Linear Equations in One Variable Ex 9.3 Q3

Answer:

$$\frac{5x-7}{3x} = 2$$

or
$$6x = 5x - 7$$
 (After cross multiplication)

or
$$6x - 5x = -7$$

or
$$x = -7$$

 \therefore x = -7 is the solution of given equation.

Check:

Substituting x = -7 in the given equation, we get:

L. H. S =
$$\frac{5 \times (-7) - 7}{.3(-7)} = \frac{-35 - 7}{-21} = \frac{-42}{-21} = 2$$

R.H.S. = 2

$$\therefore$$
 L.H.S. = R.H.S. for $x = -7$.

Linear Equations in One Variable Ex 9.3 Q4

Answer:

$$\frac{3x+5}{2x+7} = 4$$

or
$$3x + 5 = 8x + 28$$

or
$$8x + 28 = 3x + 5$$
 (After cross multiplication)

or
$$8x - 3x = 5 - 28$$

or
$$5x = -23$$

or
$$x = \frac{-23}{5}$$

$$\therefore$$
 $x = \frac{-23}{5}$ is the solution of given equation.

Check:

Substituting $x = \frac{-23}{5}$ in the given equation, we get:

L. H. S. =
$$\frac{3 \times \frac{-23}{5} + 5}{2 \times \frac{-23}{5} + 7} = \frac{-69 + 25}{-46 + 35} = \frac{-44}{-11} = 4$$

$$R.H.S. = 4$$

:. L.H.S. = R.H.S. for
$$x = \frac{-23}{5}$$

Linear Equations in One Variable Ex 9.3 Q5

Answer:

$$\frac{2y+5}{y+4} = 1$$

or
$$2y + 5 = y + 4$$

or
$$2y - y = 4 - 5$$

or
$$y = -1$$

Thus, y = -1 is the solution of the given equation.

Check:

Substituting y = -1 in the given equation, we get:

L. H. S.
$$=$$
 $\frac{2(-1)+5}{-1+4} = \frac{-2+5}{3} = \frac{3}{3} = 1$

$$R.H.S. = 1$$

$$\therefore$$
 L.H.S. = R.H.S. for y = -1.