

Linear Equations in One Variable Ex 9.1 Q6

Answer:

$$(x+2)(x+3) + (x-3)(x-2) - 2x(x+1) = 0$$
or $x^2 + 5x + 6 + x^2 - 5x + 6 - 2x^2 - 2x = 0$
or $12 - 2x = 0$
or $x = \frac{12}{2} = 6$

Verification:

L. H. S. =
$$(6+2)(6+3)+(6-3)(6-2)-2\times 6(6+1)$$

= $72+12-84=0$ = R. H. S.

Linear Equations in One Variable Ex 9.1 Q7

Answer:

$$\frac{x}{2} - \frac{4}{5} + \frac{x}{5} + \frac{3x}{10} = \frac{1}{5}$$
or
$$\frac{x}{2} + \frac{x}{5} + \frac{3x}{10} = \frac{1}{5} + \frac{4}{5}$$
or
$$\frac{5x + 2x + 3x}{10} = \frac{5}{5}$$
or
$$\frac{10x}{10} = 1$$
or
$$x = 1$$
Verification:
$$L. H. S. = \frac{1}{2} - \frac{4}{5} + \frac{1}{5} + \frac{3}{10}$$

$$= \frac{5 - 8 + 2 + 3}{10} = \frac{1}{5} = R. H. S.$$

Linear Equations in One Variable Ex 9.1 Q8

Answer:

$$\frac{7}{x} + 35 = \frac{1}{10}$$
or
$$\frac{7}{x} = \frac{1}{10} - 35$$
or
$$\frac{7}{x} = \frac{1 - 350}{10}$$
or
$$\frac{x}{7} = \frac{10}{-349}$$
or
$$x = \frac{-10 \times 7}{349} = \frac{-70}{349}$$

Verification:

L. H. S. =
$$\frac{7}{\frac{-70}{349}} + 35$$

=
$$7 \times \frac{349}{-70} + 35$$

= $\frac{349}{-10} + 35 = \frac{1}{10} =$ **R. H. S.**

Linear Equations in One Variable Ex 9.1 Q9

Answer:

$$\frac{2\mathbf{x}-1}{3} - \frac{6\mathbf{x}-2}{5} = \frac{1}{3}$$
or
$$\frac{10\mathbf{x}-5-18\mathbf{x}+6}{15} = \frac{1}{3}$$
or
$$\frac{-8\mathbf{x}+1}{15} = \frac{1}{3}$$
or
$$-24\mathbf{x} + 3 = 15$$
or
$$24\mathbf{x} = 3 - 15$$
or
$$\mathbf{x} = \frac{-12}{24} = \frac{-1}{2}$$
Verification:
$$2\mathbf{x} = \frac{2\mathbf{x}-1}{2} = \frac{6\mathbf{x}-1}{2}$$

L.H.S. =
$$\frac{2 \times \frac{-1}{2} - 1}{3} - \frac{6 \times \frac{-1}{2} - 2}{5}$$

= $\frac{-2}{3} - \frac{-5}{5}$
= $\frac{-2+3}{3} = \frac{1}{3} = \text{R.H.S.}$

Linear Equations in One Variable Ex 9.1

Q10

Answer:

$$13(y-4) - 3(y-9) - 5(y+4) = 0$$
or
$$13y - 52 - 3y + 27 - 5y - 20 = 0$$
or
$$5y = 45$$
or
$$y = \frac{45}{5} = 9$$

Verification:

L. H. S. =
$$13(9-4) - 3(9-9) - 5(9+4)$$

= $13 \times 5 - 3 \times 0 - 5 \times 13 = 0 = \text{R. H. S.}$

Linear Equations in One Variable Ex 9.1 Q11

Answer:

$$\frac{2}{3}\left(x-5\right) - \frac{1}{4}\left(x-2\right) = \frac{9}{2}$$
or
$$\frac{2x-10}{3} - \frac{x-2}{4} = \frac{9}{2}$$
or
$$\frac{8x-40-3x+6}{12} = \frac{9}{2}$$
or
$$\frac{5x-34}{12} = \frac{9}{2}$$
or
$$10x - 68 = 108$$
or
$$10x = 108 + 68$$
or
$$x = \frac{176}{10} = \frac{88}{5}$$

Verification:

L.H.S. =
$$\frac{2}{3} \left(\frac{88}{5} - 5 \right) - \frac{1}{4} \left(\frac{88}{5} - 2 \right)$$

= $\frac{2}{3} \times \frac{63}{5} - \frac{1}{4} \times \frac{78}{5} = \frac{9}{2} = \text{R.H.S.}$

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