Exercise 9B

Q1

Answer :

$x + 5 = 12$

Subtracting 5 from both the sides:

$\Rightarrow x + 5 - 5 = 12 - 5$

$\Rightarrow x = 7$

Verification:

Substituting $x = 7$ in the L.H.S.:

$\Rightarrow 7 + 5 = 12 = R.H.S.$

L.H.S. = R.H.S.

Hence, verified.

Q2

Answer :

$x + 3 = -2$

Subtracting 3 from both the sides:

$\Rightarrow x + 3 - 3 = -2 - 3$

$\Rightarrow x = -5$

Verification:

Substituting $x = -5$ in the L.H.S.:

$\Rightarrow -5 + 3 = -2 = R.H.S.$

L.H.S. = R.H.S.

Hence, verified.

Q3

Answer :

$x - 7 = 6$

Adding 7 on both the sides:

$\Rightarrow x - 7 + 7 = 6 + 7$

$\Rightarrow x = 13$

Verification:

Substituting $x = 13$ in the L.H.S.:

$\Rightarrow 13 - 7 = 6 = \text{R.H.S.}$

L.H.S. = R.H.S.

Hence, verified.

Q4

Answer :

$x - 2 = -5$

Adding 2 on both sides:

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

$\Rightarrow x = -3$

Verification:

Substituting $x = -3$ in the L.H.S.:

$\Rightarrow -3 - 2 = -5 = \text{R.H.S.}$

L.H.S. = R.H.S.

Hence, verified.

Q5

Answer :

3x − 5 = 13

⇒ 3x − 5 + 5 = 13 + 5 [Adding 5 on both the sides]

⇒ 3x = 18

⇒ $\frac{3x}{3} = \frac{18}{3}$ [Dividing both the sides by 3]

⇒ x = 6

Verification:

Substituting x = 6 in the L.H.S.:

⇒ 3 × 6 − 5 = 18 − 5 = 13 = R.H.S.

L.H.S. = R.H.S.

Hence, verified.

Q6

Answer :

4x + 7 = 15

⇒ 4x + 7 − 7 = 15 − 7 [Subtracting 7 from both the sides]

⇒ 4x = 8

⇒ $\frac{4x}{4} = \frac{8}{4}$ [Dividing both the sides by 4]

⇒ x = 2

Verification:

Substituting x = 2 in the L.H.S.:

⇒ 4×2 + 7 = 8 + 7 = 15 = R.H.S.

L.H.S. = R.H.S.

Hence, verified.

Q7

Answer :

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

⇒ $\frac{x}{5} \times 5 = 12 \times 5$ [Multiplying both the sides by 5]

⇒ x = 60

Verification:

Substituting x = 60 in the L.H.S.:

⇒ $\frac{60}{5}$ = 12 = R.H.S.

⇒ L.H.S. = R.H.S.

Hence, verified.

Q8

Answer :

$\frac{3x}{5} = 15$

$\Rightarrow \frac{3x}{5} \times 5 = 15 \times 5$ [Multiplying both the sides by 5]

$\Rightarrow 3x = 75$

$\Rightarrow \frac{3x}{3} = \frac{75}{3}$

$\Rightarrow x = 25$

Verification:

Substituting x = 25 in the L.H.S.:

$\Rightarrow \frac{3 \times 25}{5} = 15 = R.H.S.$

$\Rightarrow$ L.H.S. = R.H.S.

Hence, verified.

Q9

Answer :

$5x - 3 = x + 17$

$\Rightarrow 5x - x = 17 + 3$ [Transposing x to the L.H.S. and 3 to the R.H.S.]

$\Rightarrow 4x = 20$

$\Rightarrow \frac{4x}{4} = \frac{20}{4}$ [Dividing both the sides by 4]

$\Rightarrow x = 5$

Verification:

Substituting x = 5 on both the sides:

L.H.S.: $5(5) - 3$

$\Rightarrow 25 - 3$

$\Rightarrow 22$

R.H.S.: $5 + 17 = 22$

$\Rightarrow$ L.H.S. = R.H.S.

Hence, verified.

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