

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.

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.

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 = 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 = R.H.S.

Hence, verified.

### Q5

### Answer:

$$3x - 5 = 13$$
  
 $\Rightarrow 3x - 5 + 5 = 13 + 5$  [Adding 5 on both the sides]  
 $\Rightarrow 3x = 18$   
 $\Rightarrow \frac{3x}{3} = \frac{18}{3}$  [Dividing both the sides by 3]  
 $\Rightarrow x = 6$   
Verification:

Substituting x = 6 in the L.H.S.:  $\Rightarrow 3 \times 6 - 5 = 18 - 5 = 13 = R.H.S.$ 

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

Hence, verified.

### Q6

#### Answer:

$$4x + 7 = 15$$
  
 $\Rightarrow 4x + 7 - 7 = 15 - 7$  [Subtracting 7 from both the sides]  
 $\Rightarrow 4x = 8$   
 $\Rightarrow \frac{4x}{4} = \frac{8}{4}$  [Dividing both the sides by 4]  
 $\Rightarrow x = 2$   
Verification:  
Substituting  $x = 2$  in the L.H.S.:  
 $\Rightarrow 4 \times 2 + 7 = 8 + 7 = 15 = R.H.S.$   
L.H.S. = R.H.S.  
Hence, verified.

### Q7

#### Answer:

$$\frac{x}{5}=12$$
  $\Rightarrow \frac{x}{5}\times 5=12\times 5$  [Multiplying both the sides by 5]  $\Rightarrow$  x = 60 Verification:

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

$$\Rightarrow \frac{60}{5} = 12 = R.H.S.$$
$$\Rightarrow L.H.S. = R.H.S.$$

Hence, verified.

#### Answer:

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

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

$$\Rightarrow 3x = 75$$

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

$$\Rightarrow x = 25$$

Verification:

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

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

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]

[Multiplying both the sides by 5]

⇒ x = 5 Verification:

Substituting x = 5 on both the sides:

L.H.S.: 
$$5(5) - 3$$
  
 $\Rightarrow 25 - 3$   
 $\Rightarrow 22$ 

\*\*\*\*\*\*\*\*\*\* END \*\*\*\*\*\*\*\*