

Linear equations in one variable Ex 8.4 Q1

Answer:

```
Let the required number be 'x'. Then, 5 subtracted from 3 times x = 3x - 5. \Rightarrow 3x - 5 = 16
Adding 5 to both sides, we get \Rightarrow 3x - 5 + 5 = 16 + 5
\Rightarrow 3x = 21
Dividing both sides by 3, we get \Rightarrow \frac{3x}{3} = \frac{21}{3}
\Rightarrow x = 7
```

Thus, the required number is 7.

Linear equations in one variable Ex 8.4 Q2

Answer

Linear equations in one variable Ex 8.4 Q3

Answer:

```
Let the first number be 'x'. Hence, the second number = x + 1 and the third number = x + 2.

\Rightarrow Sum of first and second numbers = (x) + (x + 1).

ATQ:

\Rightarrow (x) + (x + 1) = 15 + (x + 2)

\Rightarrow 2x + 1 = 17 + x

Transposing x to LHS and 1 to RHS, we get

\Rightarrow 2x - x = 17 - 1

\Rightarrow x = 16

So, first number = x + 1 = 16 + 1 = 17

Third number = x + 2 = 16 + 2 = 18

Thus, the required consecutive natural numbers are 16, 17 and 18.
```

Linear equations in one variable Ex 8.4 Q4

Answer:

Let the smaller number be 'x'. So, the larger number = x + 7.

ATO

$$\Rightarrow$$
 6x + (x + 7) = 77

$$\Rightarrow$$
 6x + x + 7 = 77

$$\Rightarrow$$
 7x + 7 = 77

Subtracting 7 from both sides, we get

$$\Rightarrow 7x + 7 - 7 = 77 - 7$$

$$\Rightarrow$$
 7x = 70

Dividing both sides by 7, we get

$$\Rightarrow \frac{7x}{7} = \frac{70}{7}$$

$$x = 10$$

Thus, the smaller number = x = 10, and the larger number = x + 7 = 10 + 7 = 17.

The two required numbers are 10 and 17.

Linear equations in one variable Ex 8.4 Q5

Answer:

Let the number thought of by the man be 'x'.

So, ATQ:

$$\Rightarrow \frac{x}{3} + 5 = 2x$$

Transposing x/3 to RHS, we get

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

$$\Rightarrow$$
 5 = $\frac{6x-x}{3}$

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

Multiplying both sides by 3, we get

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

$$\Rightarrow$$
 15 = 5x

Dividing both sides by 5, we get

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

$$\Rightarrow x = 3$$

Thus, the number thought of by the man is 3.

Linear equations in one variable Ex 8.4 Q6

Answer:

Let the required number be 'x'.

So, ATQ:

$$\Rightarrow$$
 3x + 5 = 50

Subtracting 5 from both sides, we get

$$\Rightarrow$$
 3x + 5 - 5 = 50 - 5

$$\Rightarrow$$
 3x = 45

Dividing both sides by 3, we get

$$\Rightarrow \frac{3x}{3} = \frac{45}{3}$$

$$\Rightarrow$$
 x = 15

Thus, the required number is 15.

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