'Mathematics'

Class - XII Ch - 04 'Simple Equation'

Ex - 4.4

Q.1. Set up equations and solve them.

(a) Sol. Let required number be x.

Its 8 times $= 8 \times x = 8x$.

Add 4 to it, $= 8x + 4$

A/q, It becomes 60.

$\Rightarrow 8x + 4 = 60$

On transposing 4 from LHS to RHS.

$\Rightarrow 8x = 60 - 4$

$\Rightarrow 8x = 56$.

On dividing both sides by 8, we get

$\Rightarrow \frac{8x}{8} = \frac{56}{8}$

$\Rightarrow \boxed{x = 7}$

Hence, Required number be 7. Ans. ✓

(b) Sol.

Let required number be x.

One-fifth of the number $= \frac{x}{5}$.

Subtract 4 from it. $= \frac{x}{5} - 4$

So, equation becomes,

$$\frac{x}{5} - 4 = 3$$

On transposing 4 from LHS to RHS.

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

$$\Rightarrow \frac{x}{5} = 7$$

On multiplying both sides by 5, we get

$$\Rightarrow \frac{x}{5} \times 5 = 7 \times 5$$

$$\Rightarrow \boxed{x = 35}$$

Hence, Required number be 35. Ans:

(C) Sol. Let required no be x.

Its three-fourth = $\frac{3x}{4}$

Add 3 to it, = $\frac{3x}{4} + 3$

It becomes 21.

So, Equation becomes

$$\Rightarrow \frac{3x}{4} + 3 = 21.$$

On transposing 3 to RHS.

$$\Rightarrow \frac{3x}{4} = 21 - 3 = 18$$

Now, multiplying both sides by $\frac{4}{3}$, we get

$$\Rightarrow \frac{3x}{4} \times \frac{4}{3} = \cancel{18}^{6} \times \frac{4}{\cancel{3}}$$

$$\Rightarrow \boxed{x = 24}$$

→ Hence, required no be 24. Ans

(d). Sol.

Let required no be x.

Twice the no $= 2 \times x = 2x$

Now, 11 is subtracted from it.

$$\Rightarrow 2x - 11$$

A/q, $2x - 11 = 15$

Transposing (-11) to RHS.

$$\Rightarrow 2x = 15 + 11 = 26$$

$$\Rightarrow 2x = 26.$$

Now, divide both sides by 2, we get

$$\Rightarrow \frac{2x}{2} = \frac{26}{2}$$

$$\Rightarrow \boxed{x = 13}$$

Hence Required number = 13. Ans

(e). Sol. Let the no of note-books = x.
its three times = 3x.
To subtract it from 50, we get

$\Rightarrow 50 - 3x$

Result is 8 (given)

Hence, Equation becomes:

$\Rightarrow 50 - 3x = 8$

On transposing (-3x) to RHS and 8 to LHS, we get,

$\Rightarrow 50 - 8 = 3x$

$\Rightarrow 42 = 3x$

Divide both sides by 3, we get.

$\Rightarrow \frac{42}{3} = \frac{3x}{3}$

$\Rightarrow 14 = x$ or $\boxed{x = 14}$

Hence, required equation is Solved

And req. no = 14. ∧

By the same pattern you can do next two rest questions as (f) and (g)." ═══