



Exercise 7B

$$\text{Then, Age of father} = 7 \left( x - 5 \right) \text{ yrs}$$

$$\text{After 5 yrs, the age of the son will be } \left( x + 5 \right) \text{ yrs}$$

$$\text{Then, Age of father} = 3 \left( x + 5 \right) \text{ yrs}$$

$$\text{Now, we have } 3(x + 5) = 7(x - 5) + 10$$

$$\Rightarrow 3x + 15 = 7x - 35 + 10$$

$$\Rightarrow 4x = 40$$

$$\Rightarrow x = 10$$

$$\therefore \text{Present age of the father is } = 3(x + 5) - 5$$

$$\begin{aligned} &= 3 \left( 10 + 5 \right) - 5 \\ &= 40 \text{ yrs} \end{aligned}$$

Q22

**Answer :**

Let  $x$  be the present age of Manoj.

According to the question, we have :

$$\Rightarrow x + 12 = 3(x - 4)$$

$$\Rightarrow x + 12 = 3x - 12$$

$$\Rightarrow 2x = 24$$

$$\Rightarrow x = 12$$

$\therefore$  Manoj's present age is 12 years.

Q23

**Answer :**

Let  $x$  be the total marks.

According to the question, we have:

$$40\% \text{ of } x = 185 + 15$$

$$\Rightarrow \frac{40x}{100} = 200$$

$$\Rightarrow 40x = 200 \times 100$$

$$\Rightarrow 40x = 20000$$

$$\Rightarrow x = 500$$

$\therefore$  Total marks = 500

Q24

**Answer :**

Let  $x$  be the digit in the units place.

Sum of the units and tens digits = 8

Then, tens digit =  $(8 - x)$

$\therefore$  The number is  $10(8 - x) + x$ .

Now,  $10(8 - x) + x + 18 = 10x + (8 - x)$

$$\Rightarrow 80 - 10x + x + 18 = 10x + 8 - x$$

$$\Rightarrow 98 - 9x = 9x + 8$$

$$\Rightarrow 18x = 90$$

$$\Rightarrow x = 5$$

i.e., tens digit  $= (8 - 5) = 3$

$\therefore$  Required number  $= 10(8 - 5) + 5 = 10 \times 3 + 5 = 35$

Q25

**Answer :**

Let Rs  $x$  be the cost of the chair.

Then, the cost of the table is Rs  $(x + 75)$ .

Now,  $3(x + 75) + 2x = 1850$

$$\Rightarrow 3x + 225 + 2x = 1850$$

$$\Rightarrow 5x = 1625$$

$$\Rightarrow x = \frac{1625}{5} = 325$$

$\therefore$  Cost of the chair = Rs 325; cost of the table  $= (325 + 75) =$  Rs 400

Q26

**Answer :**

Let the cost price of the article be Rs  $x$ .

According to the question, we have:

SP = Rs 495

$$\therefore \text{Gain \%} = \frac{\text{Gain}}{\text{CP}} \times 100$$

$$\Rightarrow 10 = \frac{\text{Gain}}{x} \times 100$$

$$\Rightarrow \text{Gain} = \frac{10x}{100} = \text{Rs } \frac{x}{10}$$

Now, CP + Gain = SP

$$\Rightarrow x + \frac{x}{10} = 495$$

$$\Rightarrow \frac{x + 10x}{10} = 495$$

$$\Rightarrow 11x = 495 \times 10$$

$$\Rightarrow x = \frac{495 \times 10}{11}$$

$$\Rightarrow x = \frac{4950}{11}$$

$$\Rightarrow x = 450$$

$\therefore$  CP = Rs 450

Q27

**Answer :**

Let the length and breadth of the rectangular field be  $l$  m and  $b$  m, respectively.

According to the question, we have :

$$2(l + b) = 150 \quad \dots (i)$$

$$\Rightarrow l + b = 75$$

$$\text{Given that } l = 2b \quad \dots (ii)$$

Using (ii) in (i), we have:

$$2b + b = 75$$

$$\Rightarrow 3b = 75$$

$$\Rightarrow b = 25$$

$\therefore l = 50$  m and  $b = 25$  m

Q28

**Answer :**

Let the length of third side be  $x$  m. Then, the length of the two equal sides will be  $(2x - 5)$  m.

$$\therefore (2x - 5) + (2x - 5) + x = 55$$

$$\Rightarrow 2x - 5 + 2x - 5 + x = 55$$

$$\Rightarrow 5x - 10 = 55$$

$$\Rightarrow 5x = 65$$

$$\Rightarrow x = \frac{65}{5} = 13$$

$\therefore$  Length of the third side = 13 m

And length of the other two equal sides  $= (2 \times 13) - 5 = 21$  m

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

