Exercise 7B

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

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

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

Now, we have $3(x+5) = 7(x-5)+10$
$\Rightarrow 3x+15 = 7x-35+10$
$\Rightarrow 4x = 40$
$\Rightarrow x = 10$
$\therefore$ Present age of the father is $= 3(x+5)-5$

$= 3\left(10+5\right)-5$

$= 40$ yrs

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% 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

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

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

$\Rightarrow$ **Gain** $=\frac{10x}{100}=$ **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 :

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

$\Rightarrow l+b=75$

Given that $l=2b \quad \ldots$(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 **********