



Exercise 7B

$$\therefore \text{Other number} = 50 \times \frac{2}{5} = 20$$

Hence, the numbers are 50 and 20.

Q10

Answer :

Let the number be x .

Then, we have:

$$\frac{2}{3}x = \frac{1}{3}x + 3$$

$$\Rightarrow \frac{1}{3}x = \frac{2x}{3} - 3$$

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

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

$$\Rightarrow x - 2x = 3 \times (-3)$$

$$\Rightarrow -x = -9$$

\therefore The required number is 9.

Q11

Answer :

Let the number be x .

Then, we have:

$$\Rightarrow \frac{x}{5} + 5 = \frac{x}{4} - 5$$

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

$$\Rightarrow \frac{-x}{20} = -10$$

$$\Rightarrow x = 200$$

\therefore The required number is 200.

Q12

Answer :

Let the two consecutive natural number be x and $(x + 1)$.

Then, we have:

$$x + (x + 1) = 63$$

$$\Rightarrow x + x + 1 = 63$$

$$\Rightarrow 2x = 63 - 1$$

$$\Rightarrow x = \frac{63-1}{2}$$

$$\Rightarrow x = 31$$

\therefore The required numbers are 31 and 32 (i.e., $31+1$).

Q13

Answer :

Let the two consecutive odd integers whose sum is 76 be x and $(x + 2)$.

Then, $x + x + 2 = 76$

$$\Rightarrow 2x + 2 = 76$$

$$\Rightarrow 2x = 76 - 2$$

$$\Rightarrow x = 74 \div 2$$

$$\Rightarrow x = 37$$

\therefore The required integers are 37 and 39 (i.e., $37 + 2$).

Q14

Answer :

Let the three consecutive positive even integers be x , $(x + 2)$ and $(x + 4)$.

Let x be the even number.

Then, $x + x + 2 + x + 4 = 90$

$$\Rightarrow 3x = 90 - 6$$

$$\Rightarrow 3x = 84$$

$$\Rightarrow x = \frac{84}{3} = 28$$

\therefore The required numbers are 28, 30 and 32.

Q15

Answer :

Let the two parts be x and $(184 - x)$.

Then, we have:

$$\frac{1}{3}x = \frac{1}{7}(184 - x) + 8$$

$$\Rightarrow \frac{1}{3}x - \frac{1}{7}(184 - x) = 8$$

$$\Rightarrow \frac{1}{3}x - \frac{184}{7} + \frac{x}{7} = 8$$

$$\Rightarrow \frac{1}{3}x + \frac{1}{7}x = \frac{184}{7} + 8$$

$$\Rightarrow \frac{7x+3x}{21} = 8 + \frac{184}{7}$$

$$\Rightarrow \frac{10x}{21} = \frac{56+184}{7}$$

$$\Rightarrow \frac{10x}{21} = \frac{240}{7}$$

$$\Rightarrow x = \frac{240 \times 21}{7 \times 10}$$

$$= 72$$

Now, other part $= 184 - 72 = 112$

\therefore The two parts are 72 and 112.

Q16

Answer :

Let the number of five rupee notes be x .

Then, the number of ten rupee notes will be $(90 - x)$.

According to the question, we have :

$$5x + 10(90 - x) = 500$$

$$\Rightarrow 5x + 900 - 10x = 500$$

$$\Rightarrow -5x = -400$$

$$\Rightarrow x = 80$$

$$\text{Number of ten rupee notes} = 90 - 80 = 10$$

\therefore There are 80 five rupee notes and 10 ten rupee notes.

Q17

Answer :

Let the numbers of 50 paise coins and 25 paise coins be x and $2x$, respectively.

Then, we have :

$$50x + 25 \times 2x = 3400$$

$$\Rightarrow 50x + 50x = 3400$$

$$\Rightarrow 100x = 3400$$

$$\Rightarrow x = 34$$

$$\therefore \text{Number of 50 paise coins} = 34$$

$$\text{and number of 25 paise coins} = 68$$

Q18

Answer :

Let the present ages of Raju and his cousin be $(x-19)$ yrs and x yrs.

According to the question, we have :

$$\frac{(x-19)+5}{x+5} = \frac{2}{3}$$

$$\Rightarrow 3(x-14) = 2x+10$$

$$\Rightarrow 3x-42 = 2x+10$$

$$\Rightarrow x = 52$$

$$\therefore \text{Age of Raju's cousin} = 52 \text{ yrs}$$

$$\text{and age of Raju} = 52 - 19 = 33 \text{ yrs}$$

Q19

Answer :

Let the age of the son and the father be x yrs and $(x+30)$ yrs, respectively.

According to the question, we have :

$$3 \times (x+12) = x+30+12$$

$$\Rightarrow 3x+36 = x+42$$

$$\Rightarrow 3x-x = 42-36$$

$$\Rightarrow 2x = 6$$

$$\Rightarrow x = 3$$

$$\therefore \text{Son's age} = 3 \text{ yrs}$$

$$\text{Father's age} = (x+30) \text{ yrs} = (3+30) \text{ yrs} = 33 \text{ yrs}$$

Q20

Answer :

Given ratio of Sonal's and Manoj's ages = 7 : 5

Let the ages of Sonal and Manoj be $7x$ yrs and $5x$ yrs.

According to the question, we have :

$$\frac{7x+10}{5x+10} = \frac{9}{7}$$

$$\Rightarrow 7(7x+10) = 9(5x+10)$$

$$\Rightarrow 49x+70 = 45x+90$$

$$\Rightarrow 49x-45x = 90-70$$

$$\Rightarrow 4x = 20$$

$$\Rightarrow x = 5$$

$$\therefore \text{Sonal's present age is } 7 \times 5 = 35 \text{ yrs}$$

$$\text{Manoj's present age is } 5 \times 5 = 25 \text{ yrs}$$

Q21

Answer :

Let x yrs be the present age of son.

Then, the age of the son 5 years ago would be $(x-5)$ yrs

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