



Exercise 9C

Q1.

Answer :

$$\begin{aligned} \text{(i) } 24\% &= \frac{24}{100} \\ &= \frac{6}{25} \end{aligned}$$

$$\begin{aligned} \text{(ii) } 105\% &= \frac{105}{100} \\ &= 1.05 \end{aligned}$$

$$\begin{aligned} \text{(iii) } 4 : 5 &= \frac{4}{5} \\ &= \left(\frac{4}{5} \times 100 \right)\% \\ &= 80\% \end{aligned}$$

$$\begin{aligned} \text{(iv) } 56\% &= \frac{56}{100} \\ &= \frac{14}{25} \\ &= 14 : 25 \end{aligned}$$

Q2.

Answer :

Let the required number be x . Then, we have :

$$(34\% \text{ of } x) = 85$$

$$\Rightarrow \left(x \times \frac{34}{100} \right) = 85$$

$$\Rightarrow \frac{34x}{100} = 85$$

$$\Rightarrow x = \left(85 \times \frac{100}{34} \right)$$

$$\Rightarrow x = 250 \text{ Hence, the required number is 250.}$$

Q3.

Answer :

Let the value of the machine last year be Rs x .

Then, its present value = 90% of Rs x

$$\begin{aligned} &= Rs \left(x \times \frac{90}{100} \right) \\ &= Rs \frac{90x}{100} \end{aligned}$$

$$\text{Now, } \frac{90x}{100} = 54000$$

$$\Rightarrow x = \left(54000 \times \frac{100}{90} \right)$$

$$\Rightarrow x = Rs \ 60000$$

Hence, the value of the machine last year was Rs 60,000.

Q4.

Answer :

Percentage of copper = 30%

Percentage of nickel = 42%

$$\begin{aligned} \text{Percentage of zinc} &= \{100 - (30 + 42)\}\% \\ &= 28\% \end{aligned}$$

$$\therefore \text{Mass of zinc in 1 kg of the alloy} = \left(\frac{28}{100} \times 1 \right) \text{ kg} = 0.28 \text{ kg} = 280 \text{ g}$$

Q5.

Answer :

Let the total number of students be x . Then, we have :

Percentage of boys = 60%

Percentage of girls = 40%

$$\begin{aligned} \therefore \text{Number of girls} &= 40\% \text{ of } x \\ &= \left(x \times \frac{40}{100} \right) \end{aligned}$$

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

$$\text{Now, } \frac{40x}{100} = 14$$

$$\Rightarrow x = \left(14 \times \frac{100}{40}\right)$$

$$\Rightarrow x = 35$$

\therefore Total number of students = 35

Q6.

Answer :

We have :

$$8\frac{1}{3}\% = \frac{25}{3}\%$$

$$= \left(\frac{25}{3} \times \frac{1}{100}\right)$$

$$= \frac{1}{12}$$

$$= 0.083$$

$$\text{Also, } \frac{4}{25} = 0.16$$

The third number is 0.15.

Clearly, 0.16 is the largest.

i.e., $\frac{4}{25}$ is the largest.

Q7.

Answer :

(d) 10%

$$\text{Required percentage} = \left(\frac{1}{45} \times \frac{9}{2} \times 100\right)\% = 10\%$$

Q8.

Answer :

(c) 120

Let the required number be x

$$x - (30\% \text{ of } x) = 84$$

$$\Rightarrow \left\{ x - \left(x \times \frac{30}{100} \right) \right\} = 84$$

$$\Rightarrow \left(x - \frac{30x}{100} \right) = 84$$

$$\Rightarrow \frac{70x}{100} = 84$$

$$\Rightarrow x = \left(84 \times \frac{100}{70} \right)$$

$$\Rightarrow x = 120$$

Q9.

Answer :

(b) 15%

Let the required number be x . Then, we have :

$$(x\% \text{ of } 320) = 48$$

$$\Rightarrow \left(320 \times \frac{x}{100} \right) = 48$$

$$\Rightarrow \frac{320x}{100} = 48$$

$$\Rightarrow x = \left(48 \times \frac{100}{320} \right)$$

$$\Rightarrow x = 15\%$$

Q10.

Answer :

(d) 120%

$$\text{Required percentage} = \left(\frac{54}{45} \times 100 \right) \% = 120\%$$

Q11.

Answer :

(c) 80

Let the required number be x . Then, we have :

$$(25\% \text{ of } x) + 60 = x$$

$$\Rightarrow \left(x \times \frac{25}{100} \right) + 60 = x$$

$$\Rightarrow \frac{25x}{100} + 60 = x$$

$$\Rightarrow \left(\frac{25x}{100} - x \right) = -60$$

$$\Rightarrow \frac{-75x}{100} = -60$$

$$\Rightarrow x = \left(60 \times \frac{100}{75} \right)$$

$$\Rightarrow x = 80$$

Q12.

Answer :

(c) 240

Let the required number be x . Then, we have :

$$\begin{aligned}(5\% \text{ of } x) &= 12 \\ \Rightarrow \left(x \times \frac{5}{100}\right) &= 12 \\ \Rightarrow \frac{5x}{100} &= 12 \\ \Rightarrow x &= \left(12 \times \frac{100}{5}\right) \\ \Rightarrow x &= 240\end{aligned}$$

Q13.

Answer :

$$\begin{aligned}\text{(i) } 7\frac{1}{2}\% \text{ of Rs } 1200 &= \left(\frac{15}{2}\% \text{ of Rs } 1200\right) \\ &= \text{Rs } \left(\frac{15}{2} \times \frac{1}{100} \times 1200\right) \\ &= \text{Rs } 90\end{aligned}$$

Hence, $7\frac{1}{2}\%$ of Rs 1200 = Rs 90

$$\text{(ii) Required percentage} = \left(\frac{240}{3 \times 1000} \times 100\right)\% = 8\%$$

Hence, 240 ml is 8% of 3 L.

$$\text{(iii) } (x\% \text{ of } 35) = 42$$

$$\Rightarrow \left(35 \times \frac{x}{100}\right) = 42$$

$$\Rightarrow \frac{35x}{100} = 42$$

$$\Rightarrow x = \left(42 \times \frac{100}{35}\right)$$

$$\Rightarrow x = 120\%$$

\therefore If $x\%$ of 35 is 42, then $x = 120\%$.

$$(iv) \left(\frac{12}{5} \times 100 \right) \% = 240\%$$

$$\text{Hence, } \frac{12}{5} = 240\%$$

(v) Let the required number be x . Then, we have :

$$120 = x\% \text{ of } 80$$

$$\Rightarrow \left(80 \times \frac{x}{100} \right) = 120$$

$$\Rightarrow \frac{80x}{100} = 120$$

$$\Rightarrow x = \left(120 \times \frac{100}{80} \right)$$

$$\Rightarrow x = 150\%$$

$$\therefore 120 = 150\% \text{ of } 80$$

Q14.

Answer :

$$(i) 6\% \text{ of } 8 = \left(8 \times \frac{6}{100} \right) \\ = 0.48$$

Hence, it is false.

$$(ii) 6 : 5 = \frac{6}{5} \\ = \left(\frac{6}{5} \times 100 \right) \% \\ = 120\%$$

Hence, it is false.

$$(iii) \frac{3}{5} = \left(\frac{3}{5} \times 100 \right) \% \\ = 60\%$$

Hence, it is true.

$$(iv) 6 \text{ hours} = \left(\frac{6}{24} \times 100 \right) \% = 25\%$$

Hence, it is true.

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