Exercise 9C

Q1.

Answer :

(i) $24\% = \frac{24}{100}$

$= \frac{6}{25}$

$(ii)\ 105\% = \frac{105}{100}$

$= 1.05$

$(iii)\ 4 : 5 = \frac{4}{5}$

$= \left(\frac{4}{5} \times 100\right)\%$

$= 80\%$

$(iv)\ 56\% = \frac{56}{100}$

$= \frac{14}{25}$

$= 14 : 25$

Q2.

Answer :

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

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

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

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

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

$\Rightarrow x = 250$ 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

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

$$= Rs\ \frac{90x}{100}$$

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

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

$$\Rightarrow x = \text{Rs } 60000$$

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

Q4.

Answer :

Percentage of copper = 30%

Percentage of nickel = 42%

Percentage of zinc = $\{100 - (30 + 42)\}\%$

$= 28\%$

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

Q5.

Answer :

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

Percentage of boys = 60%

Percentage of girls = 40%

$\therefore$ Number of girls = 40% of x

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

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

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 :

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

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

$= \frac{1}{12}$

$= 0.083$

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%

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

Q8.

Answer :

(c) 120

Let the required number be x

$x - (30\% \ of \ x) = 84$

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

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

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

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

$\Rightarrow x = 120$

Q9.

Answer :

(b) 15%

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

$(x\% \ of \ 320) = 48$

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

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

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

$\Rightarrow x = 15\%$

Q10.

Answer :

(d) 120%

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

Q11.

Answer :

(c) 80

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

$(25\%\ of\ x) + 60 = x$

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

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

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

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

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

$\Rightarrow x = 80$

Q12.

Answer :

(c) 240

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

$$(5\% \text{ of } x) = 12$$

$$\Rightarrow \left(x \times \frac{5}{100}\right) = 12$$

$$\Rightarrow \frac{5x}{100} = 12$$

$$\Rightarrow x = \left(12 \times \frac{100}{5}\right)$$

$$\Rightarrow x = 240$$

Q13.

Answer :

(i) $7\frac{1}{2}\%$ of Rs $1200 = \left(\frac{15}{2}\% \text{ of Rs } 1200\right)$

$$= \text{Rs } \left(\frac{15}{2} \times \frac{1}{100} \times 1200\right)$$

$$= \text{Rs } 90$$

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

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

Hence, 240 ml is 8% of 3 L.

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

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

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

$120 = x\%\ of\ 80$

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

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

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

$\Rightarrow x = 150\%$

$\therefore\ 120 = 150\%\ of\ 80$

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

Hence, it is true.

********** END **********