Exercise 9B

Q12.

Answer :

(b) decrease by 1 %

Let x be the number.

A 10% increase will give a new number, $\frac{110}{100}x = \frac{11}{10}x$

The number is then reduced by 10%.

The new number will be $\frac{90}{100}\left(\frac{11}{10}\text{x}\right) = \frac{990}{1000}x = \frac{99}{100}x$

Difference $= \text{x} - \frac{99}{100}\text{x} = \frac{1}{100}\text{x}$

Percentage of decrease $= \frac{1}{100}x \times \frac{1}{\text{x}} \times 100 = 1\%$

Q13.

Answer :

(a) $18\frac{3}{4}\%$

$4\,h\ 30\ min = (4 \times 60 \times 60) + (30 \times 60)$

$= 16200\ sec$

$24\,h = (24 \times 60 \times 60)$

$= 86400\ sec$

Now, $\left(\frac{16200}{86400} \times 100\right)\% = 18\frac{3}{4}\%$

Q14.

Answer :

(c) 1200

Let x be the total number of examinees.

Percentage of the examinees passed $= 65\%$

Percentage of the examinees failed $= 35\%$

Number of the examinees failed $= (35\% \text{ of } x)$

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

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

Now, $\frac{35x}{100} = 420$

$\Rightarrow x = \left(420 \times \frac{100}{35}\right)$

$\Rightarrow x = 1200$

Q15.

Answer :

(a) 50

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

$20\% \text{ of } x + 40 = x$

$\Rightarrow \left(x \times \frac{20}{100}\right) + 40 = x$

$\Rightarrow \frac{20x}{100} + 40 = x$

$\Rightarrow \left(\frac{20x}{100} - x\right) = -40$

$\Rightarrow \frac{-80x}{100} = -40$

$\Rightarrow x = \left(40 \times \frac{100}{80}\right)$

$\Rightarrow x = 50$

Q16.

Answer :

(c) 120

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

$$x - \left(27\frac{1}{2}\% \text{ of } x\right) = 87$$

$$\Rightarrow x - \left(\frac{55}{2}\% \text{ of } x\right) = 87$$

$$\Rightarrow x - \left(x \times \frac{55}{2} \times \frac{1}{100}\right) = 87$$

$$\Rightarrow x - \frac{11x}{40} = 87$$

$$\Rightarrow \frac{29x}{40} = 87$$

$$\Rightarrow x = \left(87 \times \frac{40}{29}\right)$$

$$\Rightarrow x = 120$$

Q17.

Answer :

(c) 0.25%

Required percentage $= \left(\frac{0.05}{20} \times 100\right)\% = 0.25\%$

Q18.

Answer :

(d) 300%

Required percentage $= \left(\frac{1206}{3} \times \frac{1}{134} \times 100\right)\% = 300\%$

Q19.

Answer :

(a) x

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

$$x\% \text{ of } y = y\% \text{ of } z$$

$$\Rightarrow \left(y \times \frac{x}{100}\right) = \left(z \times \frac{y}{100}\right)$$

$$\Rightarrow \frac{yx}{100} = \frac{zy}{100}$$

$$\Rightarrow z = \left(\frac{yx}{100} \times \frac{100}{y}\right)$$

$$\Rightarrow z = x$$

Q20.

Answer :

(a) x

Required percentage $= \left(\frac{1}{35} \times \frac{7}{2} \times 100\right)\% = 10\%$

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