



Exercise 12B

Q1

Answer :

(a) Rs. 125

Principal = Rs. 6250

Simple Interest = 4% per annum

Time = 6 months = $\frac{1}{2}$ years

$$\text{Simple Interest} = \frac{P \times R \times T}{100}$$

$$\text{Simple Interest} = \frac{6250 \times 4 \times 1}{100 \times 2}$$

$$\text{Simple Interest} = \frac{250}{2} = \text{Rs. 125}$$

Q2

Answer :

(b) Rs. 3500

Amount = Rs. 3605

Time = $\frac{219}{365}$ days = $\frac{219}{365}$ days

Rate = 5% per annum

$$\text{Amount} = \text{Sum} + \frac{\text{Sum} \times \text{Rate} \times \text{Time}}{100}$$

$$\text{Amount} = \text{Sum} \left(1 + \frac{\text{Rate} \times \text{Time}}{100} \right)$$

$$\text{Sum} = \frac{3605}{1 + \frac{5}{100} \times \frac{219}{365}} = \frac{3605 \times 36500}{37595}$$

Sum = Rs. 3500

Q3

Answer :

(c) 8%

Let the sum be Rs. x .

Rate of interest = $r\%$

Time = $2\frac{1}{2}$ years = $\frac{5}{2}$ years

Amount = $\frac{6}{5} \times \text{Sum}$

Rate = ?

Amount = $\frac{6}{5} \times \text{Sum}$

Principal + S.I. = Amount

Principal + $\frac{\text{Principal} \times \text{Rate} \times \text{Time}}{100} = \frac{6}{5} \times \text{Principal}$

$$\Rightarrow x + \frac{x \times r \times 5}{100 \times 2} = \frac{6}{5} x$$

$$\Rightarrow x \left(1 + \frac{5r}{100 \times 2} \right) = \frac{6}{5} x$$

$$\Rightarrow 1 + \frac{r}{40} = \frac{6}{5}$$

$$\Rightarrow r = 40 \times \frac{1}{5}$$

$$\Rightarrow r = 8$$

So, the rate of interest is 8%.

Q4

Answer :

(b) 9 months

4. (b)

Let the time be t years.

Principal = Rs. 8000

Amount = Rs. 8360

Rate = 6% per annum

$$\text{Amount} = \text{Principal} \left(1 + \frac{\text{Rate} \times \text{Time}}{100} \right)$$

$$\frac{8360}{8000} = 1 + \frac{6 \times t}{100}$$

$$\Rightarrow \frac{8360}{8000} - 1 = \frac{6t}{100}$$

$$\Rightarrow t = \left(\frac{8360 - 8000}{8000} \right) \times \frac{100}{6}$$

$$= \frac{360}{8000} \times \frac{100}{6}$$

$$= \frac{6}{8} \times 12 \text{ months}$$

$$= 9 \text{ months}$$

Q5

Answer :

(b) 10%

Let the sum be Rs. x and the rate be $r\%$.

A/Q:

$$\text{Amount} = 2x$$

$$\Rightarrow P + S.I. = 2x$$

$$\Rightarrow P + \frac{P \times R \times T}{100} = 2x$$

$$\Rightarrow x \left(1 + \frac{r \times 10}{100} \right) = 2x$$

$$\Rightarrow \frac{100 + 10r}{100} = 2$$

$$\Rightarrow 10r = 200 - 100$$

$$\Rightarrow 10r = 100$$

$$\Rightarrow r = \frac{100}{10}$$

$$\Rightarrow r = 10$$

Q6

Answer :

$$(c) \text{ Rs. } \left(\frac{100}{x} \right)$$

Simple Interest = Rs. x

Rate = $x\%$ per annum

Time = x years

$$\text{Simple Interest} = \frac{\text{Principal} \times \text{Rate} \times \text{Time}}{100}$$

$$\Rightarrow x = \frac{\text{Principal} \times x \times x}{100}$$

$$\Rightarrow \text{Principal} = \text{Rs. } \frac{100}{x}$$

Q7

Answer :

(b) 8%

Time = 5 years

$$\text{Simple interest} = \frac{2}{5} P$$

$$\Rightarrow \frac{P \times \text{Rate} \times \text{Time}}{100} = \frac{2}{5} P$$

$$\Rightarrow \frac{\text{Rate} \times 5}{100} = \frac{2}{5}$$

$$\Rightarrow \text{Rate} = \frac{2 \times 100}{5 \times 5}$$

$$\Rightarrow \text{Rate} = 8\%$$

Q8

Answer :

(c) 22 years

***** END *****

