Compound Interest Ex 14.3 Q4

Answer :

Let the sum be Rs x.

Given :

$A = Rs\ 4913$

$R = 12.5\%$

$n = 18 \text{ months} = 1.5 \text{ years}$

We know that :

$$A = P\left(1 + \frac{R}{200}\right)^{2n}$$

$$4,913 = P\left(1 + \frac{R}{200}\right)^{2n}$$

$$4,913 = x\left(1 + \frac{12.5}{200}\right)^{3}$$

$$4,913 = x\left[(1.0625)^{3}\right]$$

$$x = \frac{4,913}{1.1995}$$

$$= 4,096$$

Thus, the required sum is Rs $4,096$.

Compound Interest Ex 14.3 Q5

Answer :

Given :

$\text{CI} - \text{SI} = \text{Rs } 283.50$

$\text{R} = 15\%$

$\text{n} = 3 \text{ years}$

Let the sum be Rs x.

We know that :

$$\text{A} = \text{P}\left(1 + \frac{\text{R}}{100}\right)^{\text{n}}$$

$$= \text{P}\left(1 + \frac{\text{R}}{100}\right)^{\text{n}}$$

$$= \text{x}\left(1 + \frac{15}{100}\right)^{3}$$

$$= \text{x}(1.15)^{3} \qquad \ldots\left(1\right)$$

Also,

$$\text{SI} = \frac{\text{PRT}}{100} = \frac{\text{x}(15)(3)}{100} = 0.45\,\text{x}$$

$$\text{A} = \text{SI} + \text{P} = 1.45\text{x} \qquad \ldots\left(2\right)$$

Thus, we have :

$$\text{x}(1.15)^{3} - 1.45\text{x} = 283.50 \quad \left[\text{From } \left(1\right) \text{ and } \left(2\right)\right]$$

$$1.523\text{x} - 1.45\text{x} = 283.50$$

$$0.070875\text{x} = 283.50$$

$$\text{x} = \frac{283.50}{0.070875}$$

$$= 4,000$$

$$\text{Thus, the sum is Rs } 4,000.$$

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