Compound Interest Ex 14.3 Q18

Answer :

Let the sum be P.
Thus, we have :

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

$$5,832 = P\left(1 + \frac{8}{100}\right)^2$$

$$5,832 = 1.1664P$$

$$P = \frac{5,832}{1.1664}$$

$$= 5,000$$

Thus, the required sum is Rs $5,000$.

Compound Interest Ex 14.3 Q19

Answer :

Let the sum be P.
Thus, we have :

$CI - SI = 360$

$$\left[P\left(1 + \frac{R}{100}\right)^n - P\right] - \frac{P \times 7.5 \times 2}{100} = 360$$

$$P\left[\left(1 + \frac{7.5}{100}\right)^2 - 1\right] - \frac{P \times 7.5 \times 2}{100} = 360$$

$P[1.155625 - 1] - 0.15P = 3600.155625P - 0.15P = 3600.005625P = 360P = \frac{360}{0.005625}P$
$= 64000$ Thus, the required sum is Rs $64,000$.

Compound Interest Ex 14.3 Q20

Answer :

Given :

$$\text{CI} - \text{SI} = 46$$

$$\text{P}\left[\left(1 + \frac{\text{R}}{100}\right)^{\text{n}} - 1\right] - \frac{\text{PRT}}{100} = 46$$

$$\text{P}\left[\left(1 + \frac{20}{300}\right)^{3} - 1\right] - \frac{\text{P}\times 20\times 3}{3\times 100} = 46$$

$$\frac{4{,}096}{3{,}375}\text{P} - \frac{\text{P}}{5} - \text{P} = 46$$

$$\frac{(4{,}096 - 3{,}375 - 675)\text{P}}{3{,}375} = 46$$

$$\text{P} = 46 \times \frac{3{,}375}{46}$$

$$= 3{,}375$$

Thus, the required sum is Rs $3{,}375$.

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