Compound Interest Ex 14.2 Q8

Answer :

Given :

$P = \text{Rs } 8,000$

$R = 10\%\ \text{p.a.}$

$n = 1.5 \text{ years}$

When compounded half $-$ yearly, we have :

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

$$= \text{Rs } 8,000\left(1 + \frac{10}{200}\right)^{3}$$

$$= \text{Rs } 8,000(1.05)^{3}$$

$$= \text{Rs } 9,261$$

Also,

$$CI = A - P$$

$$= \text{Rs } 9,261 - \text{Rs } 8,000$$

$$= \text{Rs } 1,261$$

Compound Interest Ex 14.2 Q9

Answer :

Given :

$P = \text{Rs } 57,600$

$R = 12.5\%\ \text{p.a.}$

$n = 1.5 \text{ years}$

When the interest is compounded half $-$ yearly, we have :

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

$$= \text{Rs } 57,600\left(1 + \frac{12.5}{200}\right)^{3}$$

$$= \text{Rs } 57,600(1.0625)^{3}$$

$$= \text{Rs } 69,089.06$$

Thus, the required amount is Rs $69,089.06$.

Compound Interest Ex 14.2 Q10

Answer :

Given :

$P = \text{Rs } 64,000$

$R = 5\%$ p. a.

$n = 1.5$ years

When the interest is compounded half − yearly, we have :

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

$$= \text{Rs } 64,000\left(1 + \frac{5}{200}\right)^{3}$$

$$= \text{Rs } 64,000(1.025)^{3}$$

$$= \text{Rs } 68,921$$

Also,

$$CI = A - P$$

$$= \text{Rs } 68,921 - \text{Rs } 64,000$$

$$= \text{Rs } 4,921$$

Thus, the required interest is Rs $4,921$.

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