



Compound Interest Ex 14.3 Q9

Answer :

Let the time period be n years.

$$R = 8\% = 4\% \left(\text{Half - yearly} \right)$$

Thus, we have :

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

$$4,576 = 4,400 \left(1 + \frac{4}{100} \right)^n$$

$$4,576 = 4,400(1.04)^n$$

$$(1.04)^n = \frac{4,576}{4,400}$$

$$(1.04)^n = 1.04$$

$$(1.04)^n = 1.04^1$$

On comparing both the sides, we get :

$$n = 1$$

Thus, the required time is half a year.

Compound Interest Ex 14.3 Q10

Answer :

Given :

$$CI - SI = \text{Rs } 20$$

$$\left[P \left(1 + \frac{4}{100} \right)^2 - P \right] - \frac{P \times 4 \times 2}{100} = 20$$

$$P \left[\left(1.04^2 - 1 \right) \right] - 0.08P = 20$$

$$0.0816 P - 0.08 P = 20$$

$$0.0016 P = 20$$

$$P = \frac{20}{0.0016}$$
$$= 12,500$$

Thus, the required sum is Rs 12,500.

Compound Interest Ex 14.3 Q11

Answer :

Let the time be n years.

Then,

$$A = P \left(1 + \frac{10}{100} \right)^n$$

$$1,331 = 1,000 \left(1 + \frac{10}{100} \right)^n$$

$$(1.1)^n = \frac{1,331}{1,000}$$

$$(1.1)^n = 1.331$$

$$(1.1)^n = (1.1)^3$$

On comparing both the sides, we get :

$$n = 3$$

Thus, the required time is three years.

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