

Compound Interest (Using Formula)

Chapter 3: Compound Interest (Using Formula) · Topic 1

Key Concept

In the formula $A = P(1+R/100)^n$, A is the final amount, P is the principal, R is the rate, and n is the number of years.

For example, ₹1000 at 10% for 2 years: $A = 1000(1+10/100)^2 = 1000(1.1)^2 = 1000 \times 1.21 = ₹1210$.

Compound interest can also be calculated for different time periods, like half-yearly or quarterly, adjusting the rate and time accordingly.

Using this formula saves time for longer periods, compared to calculating interest manually year by year.

Quick Revision Notes

- Formula: $A = P(1+R/100)^n$.
- A=amount, P=principal, R=rate, n=years.
- ₹1000 at 10% for 2 years: $A=₹1210$.
- This matches the year-by-year calculation.
- Compound interest can be half-yearly or quarterly.
- This adjusts rate and time accordingly.
- The formula saves time for longer periods.
- It's more efficient than manual calculation.

Practice Questions

- 1 Calculate A for ₹2000 at 5% for 3 years using the formula.
- 2 Find the compound interest for ₹5000 at 8% for 2 years.
- 3 Discuss when half-yearly compounding might be used.
- 4 Compare results using the formula and manual calculation.
- 5 Solve a compound interest word problem using the formula.
- 6 Explain each part of the formula in your own words.