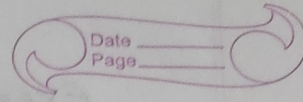


Date - 16/01/2024

Class - 8th

Subject - math



CORDD

Chapter - 10 (Compound interest)

We have studied how to calculate the simple interest in the previous class. Simple interest calculated only on the principle amount throughout the loan period. If P represent principal, R the rate percent and T the time (in years), then Simple interest -

$$S.I = \frac{P \times R \times T}{100}$$

Compound interest ÷ If the interest is calculated on the amount of previous year as above then the interest is called compound interest (C.I).

Let P be the principle and R be the rate percent per annum and T time, then

$$C.I = P \left(1 + \frac{R}{100}\right)^T - P$$

Exercise 10.1

(1) Choose the correct options:-

(i) The compound interest on ₹ 5000 at the rate of 15% per annum for 2 years is-

Sol:

Principal (P) = ₹ 5000

Rate of interest (R) = 15% per annum

Time (T) = 2 year

Interest for the first year = ₹ $\left(\frac{5000 \times 15 \times 1}{100}\right)$

= ₹ 750

Amount at the end of first year = ₹ (5000 + 750)
= ₹ 5750

Interest for the Second year = ₹ $\left(\frac{5750 \times 15 \times 1}{100}\right)$

= ₹ 862.5

Amount at the end of Second year

= ₹ (5750 + 862.5)

= ₹ 6612.5

∴ Compound interest = ₹ (6612.5 - 5000)

= ₹ 1612.5

Find - method

formula base

$$\begin{aligned} C.I &= P \left(1 + \frac{R}{100} \right)^T - P \\ &= 5000 \left(1 + \frac{18}{100} \right)^2 - 5000 \\ &= 5000 \times \left(\frac{23}{20} \right)^2 - 5000 \\ &= \frac{5000 \times 23 \times 23}{20 \times 20} - 5000 \\ &= \frac{25 \times 529}{2} - 5000 \\ &= \frac{13225}{2} - 5000 \\ &= 6612.5 - 5000 \\ &= ₹ 1612.5 \end{aligned}$$

H:W

(12) Suhail deposited a sum of ₹ 8000 at compound interest in the bank at the rate of 18% per annum for 3 years. What interest will he get after the end of 3 years?

- (a) ₹ 1542.61 (b) ₹ 6205.12 (c) ₹ 4320.29 (d) ₹ 5144.26

(iii) Sonu borrowed a sum of ₹ 2000 from a bank for 18 months. If the rate of interest is 10% per annum compounded half-yearly, the amount that he has to repay after 18 months is

(a) ₹ 2135.52

(b) ₹ 1195.63

(c) ₹ 2315.25

(d) ₹ 2531.25