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(Affiliated to CBSE up to +2 Level)

CLASS: VII

SUB.: MATHS (NCERT BASED)

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How to find CP if SP and profit or loss % is given?

Cost Price: (C.P.)

$$\text{C.P.} = \left[\frac{100}{(100 + \text{Profit \%})} \times \text{S.P.} \right]$$

Cost Price: (C.P.)

$$\text{C.P.} = \left[\frac{100}{(100 - \text{Loss \%})} \times \text{S.P.} \right]$$

Example

If the Selling price of a bookshelf is Rs 750 and the profit made by the seller is 10% then what is the cost price of the bookshelf?

Solution

$$\text{SP} = \text{Rs. } 750$$

$$\text{Profit\%} = 10\%$$

$$\text{CP} = \frac{100}{100 + \text{profit\%}} \times \text{SP}$$

$$= \frac{100}{100 + 10} \times 750$$

$$= \frac{100}{110} \times 750$$

$$= \text{Rs. } 681.81 \text{ (682 round off)}$$

Hence the seller bought the bookshelf at the cost of Rs. 682.

Simple Interest

When we borrow some money from the bank then we have to pay some interest to the bank.

The money which we borrow is called the **Principal**.

The amount which we have to pay to the bank to use that money is called **interest**.

At the end of the year we return the money to the bank with interest, that money is called **Amount**.

Amount = Principal + interest

Where,

$$\text{SI} = \frac{P \times R \times T}{100}$$

SI = Simple interest, P = Principal, R = Rate of Interest, T = time period

Example

Sunita borrows a loan of Rs 5,0000 at 15% per year as the rate of interest. Find the interest she has to pay at end of one year.

Solution

$$P = \text{Rs. } 50000$$

$$R = 15\%$$

$$T = 1 \text{ year}$$

$$\begin{aligned} SI &= \frac{P \times R \times T}{100} \\ &= \frac{50000 \times 15 \times 1}{100} \\ &= \text{Rs. } 7500 \end{aligned}$$

Total amount to be paid by Sunita at the end of one year = Rs.50000 + Rs. 7500 = Rs.57500.

Interest for multiple years

If we have to calculate the interest for more than one year then we have to change the time period only.

Example

In the above example if Sunita takes the loan for 3 years then what will be the total amount after 3 years?

Solution

$$P = \text{Rs. } 50000$$

$$R = 15\%$$

$$T = 3 \text{ year}$$

$$\begin{aligned} SI &= \frac{P \times R \times T}{100} \\ &= \frac{50000 \times 15 \times 3}{100} \\ &= \text{Rs. } 22500 \end{aligned}$$

Total amount to be paid by Sunita at the end of 3 years = Rs.50000 + Rs. 22500 = Rs.72500.