Profit Percent and Loss Percent

Understanding Notes:

- Profit Percent and Loss Percent tell us how much profit or loss is made compared to the Cost Price.
- Profit Percent is calculated when there is a gain on selling an item.
- Loss Percent is calculated when there is a loss on selling an item.
- Both Profit and Loss are always calculated based on the Cost Price (unless stated otherwise).
- Profit Percent and Loss Percent help in comparing different transactions easily.

Important Points:

- Profit = Selling Price (SP) Cost Price (CP)
- Loss = Cost Price (CP) Selling Price (SP)
- Profit Percent = $(\frac{Profit}{CP}) \times 100$
- Loss Percent = $\left(\frac{Loss}{CP}\right) \times 100$
- If SP > CP, there is a Profit.
- If SP < CP, there is a Loss.

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

$$\bullet \quad \mathsf{CP} = \frac{\mathit{SP} \times 100}{100 - \mathit{Loss} \%}$$

• SP =
$$\left(CP \times \frac{100 + Profit \%}{100}\right)$$

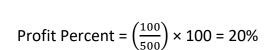
• SP =
$$\left(CP \times \frac{100 - Loss \%}{100}\right)$$

Different Types of Examples with Solutions:

Example Easy (Find Profit Percent):

➤ A shopkeeper bought a bat for ₹500 and sold it for ₹600. Find the profit percent.

Solution: Profit = SP - CP = 600 - 500 = ₹100



Example Easy (Find Loss Percent)

> A bicycle was bought for ₹2000 and sold for ₹1800. Find the loss percent.

Solution: Loss =
$$CP - SP = 2000 - 1800 = ₹200$$

Loss Percent =
$$\left(\frac{200}{2000}\right) \times 100 = 10\%$$

Example Moderate (Find SP when Profit Percent is given)

> Find the selling price if Cost Price is ₹150 and Profit is 30%.

Solution: SP =
$$\left(\frac{CP \times 100 + Profit \%}{100}\right)$$

$$SP = \frac{150 \times 130}{100} = ₹195$$

Example Moderate (Find SP when Loss Percent is given)

➤ A trader bought a shirt for ₹400. At what price should he sell it to have a loss of 15%?

Solution: SP =
$$\frac{CP \times (100 - Loss \%)}{100}$$

$$SP = \frac{400 \times 85}{100} = 340$$

Example Moderate (Find CP when SP and Profit Percent are given)

> A man sold an article for ₹660 at a profit of 10%. Find the cost price.

Solution: CP =
$$\frac{SP \times 100}{100 + Profit \%}$$

$$CP = \frac{660 \times 100}{110}$$

Summary Points:

• Profit Percent =
$$\left(\frac{Profit}{CP}\right) \times 100$$

• Loss Percent =
$$\left(\frac{Loss}{CP}\right) \times 100$$