

Jender Heart High School, Sec.-33B chd.

Class: VII

Teacher: Deepika B.

Subject: Mathematics

Topic: Chapter-10: Profit and Loss

The following terms are used in this chapter.

- Cost price (C.P) : It is the price at which article or thing is bought.
- Selling price (S.P) : It is the price at which article or thing is sold.
- Profit / Gain : When $S.P > C.P$, then we have profit or Gain.
- Loss : When $S.P < C.P$, then we have loss.

The following are the formulas :-

1. Profit / Gain = $S.P - C.P$
2. Loss = $C.P - S.P$
3. Profit % = $\frac{P}{C.P} \times 100\%$
4. Loss % = $\frac{L}{C.P} \times 100\%$
5. $S.P = \left(\frac{100 + P\%}{100} \right) \times C.P$ } $\rightarrow$ In case of profit
6. $S.P = \left(\frac{100 - L\%}{100} \right) \times C.P$ } $\rightarrow$ In case of loss
7. $C.P = \left(\frac{100}{100 + P\%} \right) \times S.P$ } $\rightarrow$ In case of profit
8. $C.P = \left(\frac{100}{100 - L\%} \right) \times S.P$ } $\rightarrow$ In case of loss

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Points to remember:

- Profit or loss is always calculated on C.P

Exercise - 10A

Soln: C.P of a Computer = ₹ 24000
extra = ₹ 1750

Total C.P = ₹ 24000 + ₹ 1750 = ₹ 25750

S.P = ₹ 26780

Profit = S.P - C.P = ₹ 26780 - ₹ 25750
= ₹ 1030

P% = $\frac{P}{C.P} \times 100\%$ = $\frac{1030}{25750} \times 100\%$

= 4%

Soln 8: C.P of 3 bananas = ₹ 8

C.P of 1 banana = ₹ $\frac{8}{3}$

S.P of 2 bananas = ₹ 7

S.P of 1 banana = ₹ $\frac{7}{2}$

Gain = S.P - C.P = $\frac{7}{2} - \frac{8}{3}$

= $\frac{21 - 16}{6} = \frac{5}{6}$

Gain% = $\frac{\text{Gain}}{C.P} \times 100\%$

= $\frac{5}{26 \times \frac{8}{3}} \times 100\%$

= $\frac{125}{24} \% =$

$5 \frac{1}{4} \%$

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Sol'n 11. Let the Selling price of 1 orange = x

$\Rightarrow$ Selling price of 15 oranges = $15x$

$\Rightarrow$ C.P of 12 oranges = $15x$

$$\text{C.P of 1 orange} = \frac{15x}{12} = \frac{5x}{4}$$

$$\text{Loss} = \text{C.P} - \text{S.P} = \frac{5x}{4} - x$$

$$= \frac{5x - 4x}{4} = \frac{x}{4}$$

$$\text{Loss \%} = \frac{\text{L}}{\text{C.P}} \times 100\% = \frac{\frac{x}{4}}{\frac{5x}{4}} \times 100\%$$

$$= \frac{x}{4} \times \frac{4}{5x} \times 100\%$$

$$= \boxed{20\%}$$

Sol'n 16 S.P = ₹ 4700, L = 6%.

C.P = ?

Desired gain = 6%.

$$\text{C.P} = \frac{100}{100 - L\%} \times \text{S.P}$$

$$= \frac{100}{100 - 6} \times 4700$$

$$= \frac{100}{94} \times 4700$$

$$= ₹ 5000$$

Now C.P = ₹ 5000, New gain = 6%.

$$\text{S.P} = \frac{100 + 6}{100} \times 5000$$

$$= \frac{106}{100} \times 5000 = \boxed{₹ 5300}$$

X