

PROFIT, LOSS AND DISCOUNT

PERIOD 2

SUBJECT : MATHEMATICS
CHAPTER NUMBER: 8
CHAPTER NAME : PROFIT, LOSS AND DISCOUNT

CHANGING YOUR TOMORROW

Learning outcome

The children will be able calculate S.P , C.P and Gain or Loss.

Previous knowledge:

1. Megha bought 10 note-books for Rs.40 and sold them at Rs.4.75 per note-book. Find, her gain percent.
2. A fruit-seller buys oranges at 4 for Rs.3 and sells them at 3 for Rs.4 Find his profit percent.
3. A man buys a certain number of articles at 15 for Rs. 112.50 and sells them at 12 for Rs.108. Find ;
 - (i) his gain as percent;
 - (ii) the number of articles sold to make a profit of Rs.75

Exercise- 8(B)

Question 1.

Find the selling price, if:

- (i) C.P. = Rs. 950 and profit = 8%
- (ii) C.P. = Rs. 1,300 and loss = 13%

Solution:

(i) C.P. = Rs. 950 Profit = 8%

$$\begin{aligned}\therefore \text{S.P.} &= \frac{950 \times (100 + 8)}{100} = \frac{950 \times 108}{100} = 19 \times 54 \\ &= \text{Rs. } 1026\end{aligned}$$

(ii) C.P. = Rs. 1,300 Loss = 13%

$$\therefore \text{S.P.} = \frac{1300 \times (100 - 13)}{100} = 13 \times 87 = \text{Rs. } 1131$$

Exercise- 8(B)

Question 2.

Find the cost price, if :

(i) S.P. = Rs. 1,680 and profit = 12%

(ii) S.P. = Rs. 1,128 and loss = 6%

Solution:

(i) S.P. = Rs. 1,128, Profit = 12%

$$\text{C.P.} = \frac{100}{(100 + \text{profit})} \times \text{S.P.}$$

$$\therefore \text{C.P.} = \frac{100}{(100 + 12)} \times 1680$$

$$= \frac{100 \times 1680}{112} = \frac{25 \times 1680}{28} = 25 \times 60 = \text{Rs. } 1500$$

(ii) S.P. = Rs. 1,128, Loss 6%

$$\text{C.P.} = \frac{100}{(100 - \text{loss})} \times \text{S.P.}$$

$$\begin{aligned} \therefore \text{C.P.} &= \frac{100 \times 1128}{(100 - 6)} = \frac{100 \times 1128}{94} = 100 \times 12 \\ &= \text{Rs. } 1200 \end{aligned}$$

Exercise- 8(B)

Question 3.

By selling an article for Rs.900; a man gains 20%. Find his cost price and the gain.

Solution:

S.P. of an article = Rs.900

Gain = 20%

$$\text{C.P.} = \frac{100}{(100 + \text{Gain}\%)} \times \text{S.P.}$$

$$\therefore \text{C.P.} = \frac{100}{(100 + 20)} \times \text{Rs.900}$$

$$= \text{Rs.} \frac{100}{120} \times 900 = \text{Rs.} \frac{9000}{12}$$
$$= \text{Rs.750}$$

Gain = S.P. - C.P.

$$= \text{Rs.900} - \text{Rs.750} = \text{Rs.150}$$

Exercise- 8(B)

Question 4.

By selling an article for Rs.704; a person loses 12%. Find his cost price and the loss

Solution:

S.P. of an article = Rs.704

Loss = 12%

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

$$= \frac{100}{(100 - 12)} \times \text{Rs.}704 = \text{Rs.} \frac{100}{88} \times 704$$

$$= \text{Rs.}100 \times 8 = \text{Rs.}800$$

$$\text{Loss} = \text{C.P.} - \text{S.P.}$$

$$= \text{Rs.}800 - \text{Rs.}704 = \text{Rs.}96$$

Exercise- 8(B)

Question 5.

Find the selling price, if :

- (i) C.P. = Rs.352; overheads = Rs.28 and profit = 20
- (ii) C.P. = Rs.576; overheads = Rs.44 and loss = 16%

Solution:

$$(i) \quad \text{C.P.} = \text{Rs.}352$$

$$\text{Overheads} = \text{Rs.}28$$

$$\text{Net C.P.} = \text{Rs.}352 + \text{Rs.}28 = \text{Rs.}380$$

$$\text{Profit} = 20\%$$

$$\text{We know :} \quad \text{S.P.} = \frac{(100 + \text{gain}\%)}{100} \times \text{C.P.}$$

$$= \frac{(100 + 20)}{100} \times \text{Rs.}380 = \text{Rs.} \frac{120}{100} \times 380$$

$$= 12 \times 38 = \text{Rs.}456$$

$$(ii) \quad \text{C.P.} = \text{Rs.}576$$

$$\text{Overheads} = \text{Rs.}44$$

$$\text{Net C.P.} = \text{Rs.}576 + \text{Rs.}44$$

$$= \text{Rs.}620$$

$$\text{Loss} = 16\%$$

$$\text{We know :} \quad \text{S.P.} = \frac{(100 - \text{Loss}\%)}{100} \times \text{C.P.}$$

$$= \frac{(100 - 16)}{100} \times \text{Rs.}620 = \text{Rs.} \frac{84}{100} \times 620$$

$$= \text{Rs.} \frac{5208}{10} = \text{Rs.}520.80$$

Home Assignment

Exercise 8(A) - 1 to 5

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