PROFIT N LOSS

1. On selling an article for Rs. 450, a trader loses 10%. In order to gain 15%, he must sell that article for
(A) Rs. 264 (B) Rs. 273.20 (C) Rs. 575 (D) Rs. 280

Sol. **(C)**

Selling price of an article = Rs. 450

So, $$\text{loss \%} = \frac{CP - SP}{CP} \times 100$$

$$10 = \frac{CP - 450}{CP}.100$$

$$CP = 500 \text{ Rs.}$$

Now for 15% gain we must sell the Article for Rs. 575.

2. If 34 items are purchased for Rs. 17 and 17 items sold for Rs. 34, then what would be the profit/loss percentage?
(A) 150% (B) 425% (C) 50% (D) 300%

Sol. **(D)**

Cost price of one article = 17/34 Rs

and selling price of one = 34/17 Rs

So, $$\text{the Profit \%} = \frac{34/17 - 17/34}{17/34}.100$$

Profit %=300

3. By selling an article for Rs. 816, a shopkeeper incurs a loss of 20%. At what price should he sell so as to gain 10%?

(A) Rs. 1122 (B) Rs. 1020 (C) Rs. 1120 (D) Rs. 1000

Sol. **(A)**

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

$$20 = \frac{C.P. - 816}{C.P.} \times 100$$

$$\frac{1}{5} = \frac{C.P. - 816}{C.P.}$$

$$C.P. = 5 \text{ C.P.} - 4080$$

$$C.P. = \text{Rs. } 1020$$

Now, for 10% gain

$\Rightarrow$

$$S.P. = \text{Rs. } 1122.$$

4. I had enough money to purchase either 10 pens or 20 pencils. I decided to spend only 45% of the money and purchased 3 pencils and some pen. How many pens can I purchase.

(A) 20 pens (B) 16 pens (C) 40 pens (D) 24 pens

Sol. **(B)**

$$\text{Cost of one pen} = \frac{100}{10} = 10 \text{ rs}$$

$$\text{Cost of one pencil} = \frac{100}{20} = 5 \text{ rs}$$

Now, I have only 45 Rs. in which I, have spendt $3 \times 5 = 15$ Rs. for pencils. Now so that i can by $\frac{30}{3} = 10$ pen.

5. A shopkeeper uses 800 gm in place of one kg to sell his goods. Find his actual percentage profit or loss, when he sells his article on 30% gain on cost price :

(A) 33 % gain (B) 62.5 %gain (C) $33\frac{1}{3}\%$ loss (D) $33\frac{2}{3}\%$ gain

Sol. **(B)**

Let C.P of 1 kg = Rs. 100

when he sells his article on 30% gain on C.P, that means he sells 800 gms. and get 130 Rs. But his cost price for 800 gm in 80 Rs.

So, % Profit = $\frac{130 - 80}{80}.100 =$ 62.5 %.

6. A Mobile is sold at a profit of 20%. If both the cost price and selling price are Rs 100 less, the profit would be 24% . Find the cost price :

(A) Rs 600 (B) Rs 500 (C) Rs 450 (D) Rs 700

Sol. **(A)**

Let C.P. = Rs. x

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

$$20 = \frac{S.P. - x}{x} 100$$

$$6x = 5\text{S.P.} \quad \text{.....(i)}$$

Now,
$$24 = \frac{(S.P. - 100) - (C.P. - 100)}{C.P. - 100} \cdot 100$$

$$\frac{24}{100} = \frac{S.P. - x}{x - 100}$$

From eq.(1)

$$\frac{24}{100} = \frac{\frac{6x}{5} - x}{x - 100}$$

$$6x - 600 = 5x$$

C.P. = x = 600 Rs.

7. Megha bought two cameras for Rs. 8200. she sold one at a loss of 10% and the other at a gain of 15% and found that each was sold at the same price. Find the cost of each cameras :

(A) Rs. 4000, Rs. 4200 (B) Rs. 3000, Rs. 5200 (C) Rs. 4600, Rs. 3600 (D) Rs. 5000, Rs. 3200

Sol. **(C)**

C.P. of first camera = Rs. x

C.P. of second camera = (8200 – x) Rs.

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

$$10 = \frac{x - S.P.}{x} \cdot 100$$

$$\frac{1}{10} = \frac{x - S.P.}{x}$$

$$9x = 10 \text{ S.P.}$$

$\Rightarrow$
$$15 = \frac{S.P. - (8200 - x)}{8200 - x} \cdot 100$$

$$\frac{3}{20} = \frac{\frac{9x}{10} - 8200 + x}{8200 - x}$$

$$x = 4600 \text{ Rs.}$$

8. Vikas correctly calculates his gain percentage on cost price and Monu wrongly calculates it on the selling price. Find the difference in actual Gain if both claim to make 25% Gain and their revenue is Rs. 2500.

(A) Rs. 120 (B) Rs. 290 (C) Rs. 125 (D) Rs. 300

Sol. **(C)**

Given revenue is Rs. 2500

So, C.P. = 2000 Rs. (given 25% profit)

So, actual profit = 500 Rs.

But when another wrongly calculates it on the S.P.

So, $2500 * 25 / 100 =$ 625 Rs.

So, difference = 625 – 500 = 125 Rs.

9. A businessman increases the selling price by 10% because of which his profit percentage increases from 20% to 30 %. What is the percentage increase in cost price?

S (A) 1.53 (B) 2.5 (C) 12 (D) 3

Sol.(A)

Let CP=100 RS

SP= 120 Rs

Now $\text{New SP} = 120 + \frac{120}{100}.10 = 132$ Rs.

$$30 = \frac{132 - CP}{CP} \times 100$$

$$\frac{30}{100} + 1 = \frac{132}{CP}$$

$CP = 101.53$ Rs.

So % change in CP = 1.53 %

10. A trader finds that the net profit he has made, insipte of his spring balance reading 10% less than the actual weight, is 20%. What is the the markup on the cost price?

Sol. Spring balance reading 10% class then actual weight. Let actual weight = 100 kg.

So, take weight = 90 kg

Let, cost price = 100 Rs. for 100 kg.

So, SP = 120 Rs.

Actual CP = 90 Rs.

Now, $\frac{30}{90} \times 100$ = 33.33 %