

1 Let Rs x be the list price (MAP)
At 30% discount it becomes Rs $\frac{70x}{100}$

$$= \text{Rs } \frac{7x}{10}$$

Let 10 Rs y be the CP

At 16% loss the SP is Rs $\frac{84y}{100}$

$$\therefore \frac{84y}{100} = \frac{7x}{10}$$

$$\Rightarrow y = \frac{70x}{84} = \frac{5x}{6}$$

$$\text{CP} = \text{Rs } \frac{5x}{6}$$

Now, at 10% discount SP is Rs $\frac{9x}{10}$

So the profit is ~~Rs $\frac{9x}{10}$~~ $\text{Rs } x \left(\frac{9}{10} - \frac{5}{6} \right) = \text{Rs } \frac{x}{15}$

$$\text{Profit percentage} = \left(\frac{x}{15} \div \frac{5x}{6} \right) \times 100 =$$

$$= 8\% \text{ profit.}$$

2 A real estate agent sells 2 sites for 18000 each

On one site he gain 25% profit and on 1 side he losses 25%.

~~profit = 18000 x 25 = 4500/-~~ So, according to formula

$$\text{So, SP} = 22500/-$$

~~On the other side he losses 25%.~~

$$\text{So, SP} = 13500$$

$$\text{Total CP} = 18000 + 18000 = 36000$$

$$\text{Total SP} =$$

$$\frac{25 - 25}{100} = x + y + \frac{xy}{100}$$

$$= 25 - 25 - \frac{25 \times 25}{100}$$

$$= -6.25$$

$$= \frac{-6.25}{100} = 6.25 \text{ loss.}$$

3 Let ~~the~~ CP = original product cost 100/-

He ~~get a~~ mark up the price by 30% = 130/-

Then allows a discount of 30%.

Therefore, the ~~SP = 130 x 70 discount on = 130 x 30 = 39%~~

$$\text{SP} = 130 \times \frac{70}{100} = 91$$

$$100 - 91 = 9 \text{ % loss}$$

\therefore the retailer had a loss of 9%.

4 C.P. of 90 bags = 90×450
 $= 40500$

Profit = 9%

So, S.P. should be = $40500 + \left\{ \frac{9}{100} \times 40500 \right\}$
 $= 40500 + 3645$
 $= 44145/-$

Now, S.P. of 30 bags at 20% profit.

CP of 30 bags = $30 \times 450 = 13500$

So, S.P. = $13500 + \left\{ \frac{20}{100} \times 13500 \right\}$
 $= 16200$

Now, S.P. of 20 bags at 6% loss

CP of 20 bags = 450×20
 $= 9000$

S.P. = $9000 - \left\{ \frac{6}{100} \times 9000 \right\}$
 $= 8460$

Total S.P. = $8460 + 16200 = 24660$

S.P. of the rest bags = $44145 - 24660$
 $= 19485$

Remaining Bags = 40 bags.

So, SP of each should be = $\frac{19485}{40}$
 $= 487.125$

5 Let the advertised price = 100/-

10% discount on advertised price = $100 - \left\{ \frac{10}{100} \times 100 \right\}$
 $= 90/-$

In case of 20% profit, S.P = 120/-

20% profit is made of the advertised price on i.e. on Rs 90/-
profit made is 15%.

When profit made is ₹15 advertised price is ₹100/-

When the profit made will be Rs 7500 advertised price will be $\frac{100}{15} \times 7500 = 50000/-$