HOME ASSIGNMENT

1) If a merchant offers a discount of 30% on the list price, then she makes a loss of 16%. What % profit or % loss will she make if she sells at a discount of 10% of the list price?

Sol. Let Rs x be the list price

At 30% discount it becomes Rs $70x/100 = Rs\ 7x/10$

Let Rs y be the CP

At 16% loss the SP is Rs $84y/100$

Hence, $84y/100 = 7x/10$

So, $y = 70x/84 = 5x/6$

CP $= 5x/6$

Now at 10% discount the SP is Rs $9x/10$

So, the profit $= Rs\ (9/10 - 5/6)x = Rs\ x/15$

Hence, the profit percentage $= \left(\frac{x}{15} \div \frac{5x}{6}\right) \times 100\% = 8\%$

2) A real estate agent sells 2 sites for ₹ 18000 each. On one he gains 25% and on the other he loses 25%. What is his gain or loss %.

Sol. SP $= 18000$

Profit % $= 25\%$

~~CP $= \frac{100}{125} \times 18000 = 14400$~~

$CP = \frac{100}{125} \times 18000 = 14400$ (1st site)

$CP = \frac{100}{75} \times 18000 = 24000$ (2nd site)

SP $= 36000$

CP $= 38400$

Loss $= 38400 - 36000 = 2400$

Loss % $= \frac{2400}{38400} \times 100 = 6.25\%$

3) If a retailer marks up his price by 30% and then allows a 30% discount, what is his percentage profit/loss?

Sol. Let the price be ~~x~~ be 100.

~~i.e (1+30%) × x × (1-30%)~~

100 + 30 = 130

After discount of 30%, SP would be = $130 - 130 \times 30\% = 130 - \frac{(130 \times 30)}{100}$

$= 130 - 39 = 91$

Loss = 100 - 91 = 9, which is $\frac{9 \times 100}{100} = 9\%$ (loss)

~~100~~

4) Bharat purchased 90 bags of cement at ₹450 each. He sold 30 bags at 20% profit and 20 bags at 6% loss. At what rate per bag should the remainder be sold to gain a profit of 9% on whole transaction.

Sol. Bags remaining = 40

Let the 40 bags be sold with p% gain.

Now % gain/loss on the whole = Sum of product of gain/loss % with their respective quantities

Therefore, 9% of 90 bags of ₹450 each = 20% of 30 bags of ₹450 each − 6% of 20 bags of ₹450 each + p% of 40 bags of ₹450 each

$\left(\frac{9}{100}\right) \times 90 \times 450 = \left\{\left(\frac{20}{100}\right) \times 30 \times 450\right\} - \left\{\left(\frac{6}{100}\right) \times 20 \times 450\right\} + \left\{\left(\frac{p}{100}\right) \times 40 \times 450\right\}$

$\Rightarrow 9 \times 90 = (20 \times 30) - (6 \times 20) + (p \times 40)$

$\Rightarrow p = 8.25\%$

Therefore, the SP = $\frac{108.25}{100} \times 450 = ₹ 487.125$