

Examples

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Eg: A person purchased an article for Rs. 120 and sold it for Rs. 150. find his % profit ?

→ CP of an article = Rs. 120.

SP " " = Rs. 150.

Profit of an article = 150 - 120 = 30 RS

$$\% \text{ profit} = \frac{\text{Profit}}{\text{CP}} \times 100$$

$$= \frac{30}{120} \times 100 = 25 \%$$

OR

$$\% \text{ profit} = \frac{\text{Profit}}{\text{CP}} \times 100$$

$$= \frac{30}{120} \times 100 = 25 \%$$

Ex = A dishonest shopkeeper sells goods at his cost price but uses a weight of 425 gms instead of 500 gms. Find the gain in percent.

→ The CP of shopkeeper = 425 gms

$$\text{SP} \quad \text{||} \quad \text{||} \quad = 500 \text{ gms.}$$

$$\text{Profit} = 75 \text{ gms.}$$

$$\therefore \text{Profit \%} = \frac{75}{425} \times 100$$

$$= 17 \frac{11}{17} \%$$

S = A person got 5% loss by selling an article for RS. 1045. At what price should ...

- now we have to find what price
should the article be sold to earn 15% profit.

$$\rightarrow (100 - \text{loss \%}) : (15 + \text{SP}) = (100 + \text{gain \%}) : (25\% \text{ SP}).$$

$$\frac{100 - 5}{1045} = \frac{100 + 15}{x} \Rightarrow x = \frac{115 \times 1045}{95}$$

$$= 1265$$

Ex A person sold an article w profit of 15%.

If he had it Rs. 480 more, he would
gain 18%. What is the cost price?

\rightarrow Let the CP of an article be Rs.

$$115\% \text{ of } x + 480 = 118\% \text{ of } x$$

$$\Rightarrow 118\% \text{ of } x - 115\% \text{ of } x = 480$$

$$\Rightarrow 3\% \text{ of } x = 480$$

$$\Rightarrow \frac{3x}{100} = 480 \Rightarrow x = \frac{480 \times 100}{3}$$

$$= 16000 \text{ Rs.}$$

OR.

$$CP = \frac{\text{Difference of SP}}{\text{Difference of Profit \%}} \times 100$$

$$= \frac{480}{3} \times 100 = 16000\% =$$

Sx Let the CP of 15 articles is equal to
the SP of 12 articles. find the gain or loss %

→ Let the cost price of each article be Rs. 1.

Then CP of 12 articles = Rs. 12.

SP of 15 articles = Rs 15.

$$\text{Profit} = 15 - 12 = 3 \text{ Rs.}$$

$$\text{Profit \%} = \frac{\text{Profit}}{\text{CP}} \times 100$$

$$= \frac{3}{12} \times 100 = 25\%$$

SQ A vendor bought bananas at 5 kg for Rs. 6 and sold them at 4 kg for Rs. 5. find the gain or loss in percent.

Suppose, number of bananas bought = 1 kg.

$$\text{LCM of 4 & 5} = 20.$$

$$\text{CP} = \text{Rs. } \left(\frac{6}{5} \times 20 \right) = 16 \text{ Rs.}$$

$$\text{SP} = \text{Rs. } \left(\frac{5}{4} \times 20 \right) = 25 \text{ Rs.}$$

$$\text{Profit} = SP - CP = 25 - 16 = 9$$

$$\begin{aligned}\text{Profit \%} &= \frac{\text{Profit}}{C.P.} \times 100 \\ &= \frac{9}{16} \times 100 = 56.25\%\end{aligned}$$

or.

5 bananas . h RS.

~~h bananas~~ ~~5 rs.~~

$$\therefore \% = \frac{25 - 16}{16} \times 100$$

$$= \frac{9}{16} \times 100 = 56.25\%$$

S2 Find the equivalent discount of 10% and
20%.

→ Let the MP be = Rs. 100,,

$$\text{Then, Net CP} = 100 \times \frac{90}{100} \times \frac{80}{90} = \text{Rs. } 72.,,$$

Revised Liscount = $(100 - 72) \% = 28\%$.

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

$$10 + 20 - \frac{10 \times 20}{100}$$

$$30 - 2 = 28\%$$

Ex If the marked price of an article is 25%. more than its CP and shopkeeper allows discounts of 10%. find his profits in percent

→ Let the CP be = Rs. 2.

$$MP = x \times 125\% = \left(x \times \frac{5}{4} \right) \text{ Rs.}$$

After 10% discount SP = $\left(x \times \frac{5}{4} \right) \times 90\%$

$$= x \times \frac{5}{4} \times \frac{9}{10}$$

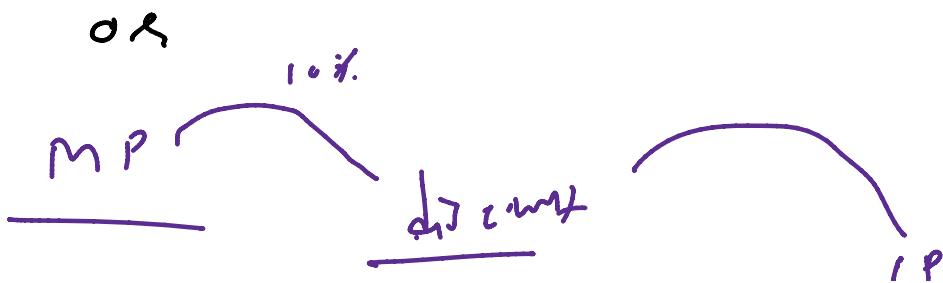
$$= x \times \frac{9}{8}.$$

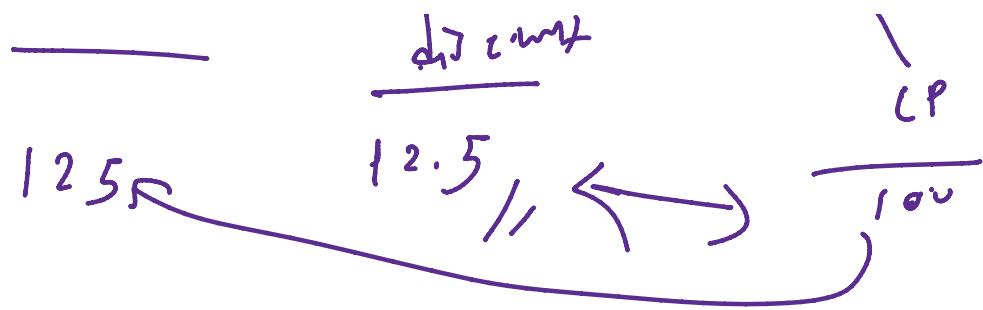
$$\text{Profit} = \frac{5x}{4} - \frac{9x}{8} \quad | \cdot x \times 100\%$$

$$= \frac{10x - 9x}{8} \times 100$$

$$\frac{8}{2}$$

$$= \frac{1}{8} x \times 100 = 12.5\%$$





(sp) Ans. = 112.5 : $\therefore 12.5\% \text{ profit.}$

Σ In an order of 5 dozen boxes of consumer product, a retailer receives an extra dozen free. This is equivalent to allowing him a discount of:

$$\text{"discount f.} = \frac{1}{6} \times 100$$

$$= 16 \frac{2}{3}\%$$

Σ If the CP is 96% of the selling price. What is the profit %?

→ Let S.p & b m cost/jc = x.

$$CP \quad || \quad = 96x$$
$$\frac{100}{}$$

$$PL + fit = x - \frac{96x}{100} = \frac{4x}{100}$$

$$PL-fit \% = \frac{\frac{4x}{100}}{\frac{96x}{100}} \times 100 = \frac{100}{24} = 41.67\%$$

or

$$\left. \begin{array}{l} CP = 96 \\ SP = 100 \end{array} \right\} \quad PL + fit = SP - CP \\ = 100 - 96 = 4.$$

$$PL + fit \% = \frac{PL + fit}{SP} \times 100$$

C.P

$$= \frac{4}{96} \times 100 = \frac{100}{24} = 4.17\%$$

SQ Mayank purchased 1 dozen of
toys at the rate of 375RS.

He sold each item at the rate of
Rs. 33. What was his profit?

$$\rightarrow \text{C.P. of 1 toy} = \frac{375}{12} = \text{Rs. } 31.25$$

$$\text{S.P. of 1 toy} = \text{Rs. } 33$$

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

$$= 33 - 31.25 \quad 1.75$$

$$= \frac{33 - 31.25}{31.25} = \frac{1.75}{31.25} \times 100 \\ = 5.67\%$$

S2. A Shopkeeper bought 30 Kg of Wheat at the rate of Rs. 45 per Kg. He sold half of the total quantity at the rate of Rs. 50 per Kg. Approximately, at what price per Kg should he sell the remaining quantity to make 25% overall profit?

a) 51 b) 52 c) 50 d) 60,

$\rightarrow \text{C.P. of } 30 \text{ Kg Wheat} = 30 \times 45 = 1350,$

total SP for an overall profit 25%..

$$\therefore 1350 \times \frac{125}{100} = 1687.5,$$

$$100 = 30 \text{ kg}$$

$$100 = 30$$

$$\frac{60 \times 30}{100} = 12 \text{ kg},$$

$$\text{S.P of } 12 \text{ kg of wheat} = 12 \times 50$$

$$= 600 \text{ Rs.},$$

$$\text{Expected S.P of } 15 \text{ kg} = 187.5 - 600$$

=

$$= \frac{187.5}{18}$$

$$= \text{Rs. } 60.41\overline{6}$$

$$\approx \text{Rs. } 60.4 \text{ kg},$$

Smt. Rayamji purchased a mobile phone and

a refrigerator for Rs. 12000 and

Rs. 10000 respectively. She sold the refrigerator

Let the loss of 12% and mobile phone

at the profit of 8% what is here

or chart - loss - or - profit }

a) Rs. 230 loss b) Rs. 240 profit

c) Rs. 250 profit d) Rs. 250 loss

$$\rightarrow \text{Total C.P} = \text{Rs.}(12000 + 10000)$$

$$= \text{Rs. } 22000$$

$$\text{Total S.P} = \left(\frac{12000 \times 108}{100} + \frac{10000 \times 88}{100} \right)$$

$$= \text{Rs. } 21760.$$

C.P > S.P:

$$\underline{\text{Loss}} = 22000 - 21760 = 240/-$$

Ex It is on selling 12 Notebooks my seller makes a profit equal to the selling price of 4 Notebooks. Profit ?

→ Let S.P 1 = x

$$S.P \text{ of } 12 \text{ Notebooks} = 12x$$

$$\text{Profit} = 4x$$

$$C.P = S.P - \text{Profit} = 12x - 4x = 8x$$

$$\begin{aligned}\text{Profit \%} &= \frac{\text{Profit}}{C.P} \times 100 = \frac{4x}{8x} \times 100 \\ &= \frac{1}{2} \times 100 = 50\%\end{aligned}$$

Ex A shop keeper sells two watches for

Rs. 30 & each one he gets 12%. Profit
and on other 12% of loss. His profit %.
or loss %. In the entire transaction was

- a) $1 \frac{11}{25} \text{ % loss}$ $1 \frac{11}{25} \text{ % gain}$
- c) $3 \frac{2}{25} \text{ % loss}$ $1 \frac{2}{25} \text{ % gain}$
- e) $4 \frac{11}{25} \text{ % loss}$.