

Profit and Loss.

30-08-19

★ Formule :

1. $\text{Gain} = \text{SP} - \text{CP}$

2. $\text{Loss} = \text{CP} - \text{SP}$

4. $\text{Gain \%} = \frac{\text{Gain} \times 100}{\text{C.P}}$

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

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

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

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

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

Q. Mansi purchase a car of Rs 2,50,000 & sold it for Rs 3,48,000. What is the percent profit he made on the car

$$\rightarrow \text{Gain} = 3,48,000 - 2,50,000 \\ = 98,000$$

$$\text{Gain \%} = \frac{\text{Gain} \times 100}{\text{C.P.}} = \frac{98000 \times 100}{250000} = 39.2\%$$

Q. If the C.P is Rs 2516 & S.P is 2272. Find the % loss.

$$\rightarrow \text{Loss} = \text{C.P} - \text{S.P} \\ = 2516 - 2272 = 244$$

$$\text{Loss \%} = \frac{24400}{2516} = \frac{6100}{629} = \underline{\underline{9.69\%}}$$

Q. A gold bracelet is sold for Rs 14,500 at a loss of 20%. What is C.P of Gold bracelet.

$$\rightarrow 20\% = \frac{\text{C.P} - 14500}{100}$$

$$\text{C.P} = \frac{100}{100 - 20\%} \times \text{S.P}$$

$$= \frac{100}{100 - 20} \times 14500$$

$$= \frac{100}{80} \times 14500$$

$$= \underline{\underline{18125}}$$

Q. Shalu sold a mobile phone at the cost of Rs 1950 at a loss of Rs 25%. At what cost will she have to sell it to get a profit of 30%.

$$C.P = \frac{100}{100 - 25\%} \times S.P$$

$$= \frac{100}{75} \times 1950 = \underline{\underline{2600}}$$

$$S.P = \frac{100 + G\%}{100} \times C.P$$

$$= \frac{100 + 30}{100} \times 2600$$

$$= 130 \times 26$$

$$= \underline{\underline{3380}}$$

Q. The owner of a cell phone charges his customer 23% more than cost price, if a customer paid Rs 7011 for a cell phone, then what was C.P.

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

$$= \frac{100}{123} \times 7011$$

$$= \underline{\underline{5700}}$$

03-09-19

Q. A television manufacturer earns 20% profit by selling each TV set for Rs. 14400. If the production cost is increased by 15%, what should be the new selling price of a set so as to get 15%.

$$CP = \frac{100}{100 + \text{Gain}\%} \times S.P.$$

$$= \frac{100}{100 + 20} \times 14400$$

$$= \frac{100}{30} \times ~~14400~~^{145} 14400$$

$$= \frac{1500}{3} = \underline{\underline{500}} \quad 12000$$

$$SP = \frac{100 + \text{Gain}\%}{100} \times C.P.$$

$$= \frac{100 + 15\%}{100} \times ~~12000~~ 12000$$

$$= \frac{115}{100} \times ~~12000~~ 12000$$

$$= 13800$$

Q. If the cost price is 96% of the selling price, then what is the profit?
 Let SP be Rs 100

$$CP = 96$$

$$\begin{aligned} \text{Profit} &= 100 - 96 \\ &= \text{Rs } 4. \end{aligned}$$

$$\begin{aligned} \text{profit percent} &= \frac{\text{profit}}{C.P \times 100} \\ &= \frac{4}{96 \times 100} \\ &= 4.16\% \end{aligned}$$

$$\begin{aligned} \text{Gain \%} &= \frac{\text{Gain} \times 100}{CP} \\ &= \frac{4 \times 100}{96} \\ &= 4.16\% \end{aligned}$$

Q. A book was sold for Rs 27.50 with a profit of 10%. If it were sold for Rs 25.75 then what would have been the %age of profit & loss.

$$CP = \frac{100}{100 + \text{Gain \%}} \times SP$$

$$= \frac{100}{100 + 10} \times 27.50$$

$$= \frac{100}{110} \times 27.50$$

$$= \underline{\underline{25}}$$

$$25.75 = \frac{100 + x}{100} \times 25$$

$$\frac{103}{25} = 100 + x$$

$$x = 103 - 100$$

$$x = \underline{\underline{3\%}}$$

07-09-19

Q. A manufacturer makes 800 articles at a cost of Rs. 1.50 per article. If he fixes the selling price such that if only 600 articles are sold he would make a profit of 30% on his outlay. However he sold 620 articles at this price. Find his actual profit percent of the total outlay, assuming that the unsold articles are useless.

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

$$1200 = \frac{100}{100 + 30\%} \times S.P$$

$$1200 = \frac{100}{130} \times S.P$$

$$S.P = \frac{1200 \times 13}{10} = \underline{\underline{1560}}$$

$$S.P \text{ of } 620 \text{ articles} = \frac{1560}{600} \times 620$$

$$= \underline{\underline{1612}}$$

$$\begin{aligned} \text{profit \%} &= \frac{P}{C.P} \times 100 \\ &= \frac{1612 - 1200}{1200} \times 100 \\ &= \underline{\underline{34.33\%}} \end{aligned}$$

Q. The S.P of 30 items = the purchase price of 25 items. What is the profit or loss %

$$\begin{aligned} \rightarrow \quad \frac{30 - 25}{25} \times 100 &= \frac{5}{25} \times 100 = \underline{\underline{20\%}} \\ &= \underline{\underline{20\%}} \end{aligned}$$

Q. A vendor bought buttons at 6 for a rupee. How many for a Rupee must he sell to gain 20%

$$C.P = \frac{10}{6} \times 12 = 20$$

$$S.P = \frac{6}{4} \times 12 = 18$$

$$\text{Loss \%} = \left(\frac{2}{20} \times 100 \right) \% = \underline{\underline{10\%}}$$

Q. A grocer purchased 80 kg of sugar at Rs. 13.50 per kg & mixed it with 120 kg sugar at Rs 16 per kg. At what rate should he sell the mixture to gain 16%.

$$\begin{aligned} \text{C.P of } 200\text{kg} &= (80 \times 13.50 + 120 \times 16) \\ &= \underline{\underline{\text{Rs } 3000.}} \end{aligned}$$

$$\begin{aligned} \text{S.P} &= 116\% \text{ of } 3000 = \frac{116}{100} \times 3000 \\ &= \underline{\underline{\text{Rs } 3480.}} \end{aligned}$$

$$\text{Rate of S.P of mixture} = \frac{3480}{200} = \underline{\underline{\text{Rs } 17.4/\text{kg}}}$$

Q. A dishonest dealer professes to sell his goods at cost price but uses a wt. of 960 gms for a kg weight. Find his gain percent.

$$\begin{aligned} \rightarrow \text{Gain \%} &= \left[\frac{\text{Error}}{(\text{True Value}) - \text{Error}} \times 100 \right] \% \\ &= \frac{40}{960} \times 100 = \underline{\underline{4 \frac{1}{6} \%}} \end{aligned}$$