

Ex-7.3  
Formula Regarding profit & loss

$$SP = CP \left( \frac{100+R}{100} \right)$$

$$CP = \frac{SP \times 100}{(100+R)}$$

where  $R\%$  = rate of profit

$$SP = CP \left( \frac{100-L}{100} \right)$$

$$CP = \frac{SP \times 100}{(100-L)}$$

$L\%$  = rate of loss.

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

$$\text{Loss } \% = \frac{L}{CP} \times 100\%$$

$$\text{Profit} = SP - CP$$

$$SP = CP + \text{profit}$$

$$\text{Loss} = CP - SP \quad (\text{here } CP > SP)$$

$$L\% = \frac{\text{Loss}}{CP} \times 100\%$$

①

Rohan bought a calculator for ₹760 and sold it for ₹874. Find his profit and profit percentage.

$$C.P = ₹760$$

$$S.P = ₹874$$

$$\text{profit} = (874 - 760)$$

$$= ₹114$$

$$\% \text{ of profit} = \frac{₹114}{₹760} \times 100\%$$

$$= \frac{573}{760} \times 100\%$$

$$= 15\%$$

Ans! - Profit ₹114 and profit% = 15%

② Kriti bought a saree for ₹2500 and sold it for ₹2300. Find her loss and loss percent.

$$C.P = ₹2500$$

$$S.P = ₹2300$$

$$\text{loss} = ₹(2500 - 2300)$$

$$= ₹200$$

$$L\% = \frac{200}{2500} \times 100\%$$

$$= 8\%$$

3) Rajinder bought one almirah for ₹4800 and other for ₹3640. He sold the first almirah at gain  $13\frac{1}{3}\%$  and other at a loss of  $15\%$ . How much did he gain or lose in the whole deal.

Cost price of one almirah = ₹4800

$$\begin{aligned} \bullet \text{ Profit in 1st almirah} &= 4800 \times \frac{40}{3}\% \\ &= 4800 \times \frac{40}{3} \times \frac{1}{100} \\ &= ₹640 \end{aligned}$$

Cost price of 2nd almirah = ₹3640

Loss in 2nd almirah

$$= ₹3640 \times 15\%$$

$$= ₹3640 \times \frac{15}{100}$$

$$= ₹546$$

$$\begin{aligned} \text{Net gain} &= ₹(640 - 546) \\ &= ₹94 \end{aligned}$$

4. By selling a steel almirah for ₹ 3906, a manufacturer suffers a loss of ₹ 294. Find the cost price of the almirah and his loss percentage.

$$SP = ₹ 3906$$

$$Loss = ₹ 294$$

$$CP = ₹ (3906 + 294) = ₹ 4200$$

$$\text{Cost price of almirah} = ₹ 4200$$

$$L\% = \frac{294}{4200} \times 100 = 7\%$$

Ans  $CP = ₹ 4200$ , loss percentage = 7%

5. By selling a chair for ₹ 522, a shopkeeper makes a profit of 16%. What is its cost price?

$$SP = ₹ 522$$

$$P\% = 16\%$$

$$CP = \frac{SP \times 100}{100 + 16} = \frac{522 \times 100}{116} = ₹ 450$$

6) By selling an article for ₹ 4550, Tony incurs a loss of 9%. What percentage would gain or lose by selling it for ₹ 4825

$$SP = ₹ 4550$$

$$L\% = 9\%$$

$$CP = \frac{SP \times 100}{100 - L}$$

$$= \frac{4550 \times 100}{100 - 9}$$

$$= \frac{4550 \times 100}{91}$$

$$CP = 5000$$

$$Loss = (5000 - 4825)$$

$$= 175$$

$$L\% = \frac{175}{5000} \times 100$$

$$= \frac{7}{2}\%$$

$$= 3\frac{1}{2}\%$$

~~A school~~  
 Q.1. Mohini save ₹400 from her ~~sp~~ salary.  
 If this is 10% of her salary, then  
 what is her salary?

~~Mohini saved ₹400~~

~~Her Savings = ₹400 × 10%~~

$$= \frac{400 \times 10}{100}$$

$$= \frac{4000}{100}$$

$$= 40$$

Let ₹x be the salary

∴ her savings = ~~4000~~ x × 10%

$$= \frac{x \times 10}{100}$$

$$= \frac{x}{10}$$

$$\text{A/S } \frac{x}{10} = 400$$

$$\Rightarrow x = 400 \times 10$$

$$\therefore x = 4000$$

Ans: His Salary = ₹4000.

Q.2. If the price of a watch is increased by 15%, the increase in the price is ₹90. what was the ~~an~~ price of watch earlier.

Let ₹x be the ~~price of~~ earlier price.

Price ∅ was increased by x × 15%

$$= \frac{x \times 15}{100}$$

$$= \frac{8x}{20}$$

$$\text{A/S } \frac{3x}{20} = 90$$

$$\Rightarrow x = \frac{90 \times 20}{3}$$

$$x = 600$$

Ans: - earlier cost = ₹600

3 The price of a shirt is reduced by 7% to ₹465. What is its original price

Let ₹x be the ~~price~~ of original price

The price of the shirt reduced by =  $x \times 7\%$

$$\text{Present price} = \frac{x \times 7}{100} = x - \frac{7x}{100} = \frac{100x - 7x}{100} = \frac{93x}{100}$$

$$\text{A/q } \frac{93x}{100} = 465$$

$$\Rightarrow x = \frac{465 \times 100}{93}$$

$$\therefore x = 500$$

Ans :- Original price was = ₹500

4 ~~If the price of~~  
In an examination, a student has to secure 45% marks to pass the exam. If Varun got 251 marks and failed by 19 marks, what are the maximum marks?

Marks obtained by ~~the~~ Varun = 251

He failed by = 19

$$\text{Pass mark} = 251 + 19 = 270$$

Pass marks      full marks  
45                      100

270                      x

As ~~pass marks~~ full marks increases, pass marks ~~also~~ also increases.  
Pass marks and full marks are directly proportional.

$$\frac{45}{270} = \frac{100}{x}$$

$$45x = 270 \times 100$$
$$\Rightarrow x = \frac{270 \times 100}{45}$$

$$\therefore x = 600$$

Ans:- Full marks = 600

2 Find the whole quantity if  
25% of it is 9

Let x be the whole quantity.

$$x \times 25\%$$

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

$$= \frac{x}{4}$$

Ans

$$\frac{x}{4} = 9$$

$$x = 36$$



6) Chalk contains 10% calcium, 3% carbon, 12% oxygen and the remaining sand.

Find the amount of carbon and calcium in  $2\frac{1}{2}$  kg of chalk. Also find the amount of sand (in kg)

$$\text{Total amount of chalk} = 2\frac{1}{2} \text{ kg}$$

$$= \frac{5}{2} \text{ kg}$$

$$\text{Amount of calcium} = \frac{5}{2} \times \frac{10}{100} \text{ gm}$$

$$= 2500 \text{ gm}$$

Q.1.

$$\text{Amount of calcium} = 2500 \times 10\%$$

$$= \frac{2500 \times 10}{100}$$

$$= 250 \text{ gm}$$

$$\text{amount of carbon} = \frac{2500 \times 3}{100}$$
$$= 75 \text{ gm}$$

$$\text{amount of oxygen} = \frac{2500 \times 12}{100}$$
$$= 300 \text{ gm}$$

Amount of Sand

$$= 2500 - (250 + 75 + 300)$$

$$= (2500 - 625) \text{ gm}$$

$$= 1875 \text{ gm}$$

$$\text{Ans: Amount of Sand} = 1.875 \text{ kg}$$

7. The price of shirt decreased from £80 to £60, Find the percentage of decrease in the price of the shirt.

Present price = £60

Previous price = £80

$$\text{amount decreased by} = £80 - £60 = £20$$

$$\% \text{ decreased by} = \frac{20}{80} \times 100\%$$

$$= 25\%$$

Ans: 25%

8