

CLASS - 7th
Chapter = 8
Comparing Quantities
Exercise 8.3.

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①

1. Find what is the profit or loss in the following transactions. Also find Profit Percent or Loss Percent in each case.

(i) Gardening shears bought for Rs 250 and sold for Rs 325.

Sol Cost Price (C.P.) = 250 Rs
Selling Price (S.P.) = 325 Rs

$$\therefore SP > CP$$

$$\begin{aligned}\therefore \text{Profit} &= SP - CP \\ &= 325 - 250 \\ &= 75 \text{ Rs.}\end{aligned}$$

$$\text{Profit Percentage} = \left(\frac{\text{Profit}}{CP} \times 100 \right) \%$$

$$= \frac{75}{250} \times 100 \%$$

$$= \frac{300}{10} \%$$

$$= 30 \% \text{ Ans.}$$

(ii) A refrigerator bought for Rs 12,000 and sold at Rs 13,500.

(2)

Sol.

$$C.P. = 12000$$

$$S.P. = 13500$$

$$\begin{aligned}\text{Profit} &= S.P. - C.P. \\ &= 13500 - 12000 \\ &= 1500 \text{ Rs.}\end{aligned}$$

$$\text{Profit Percentage} = \frac{\text{Profit}}{C.P.} \times 100\%$$

$$= \frac{1500}{12000} \times 100\%$$

$$= \frac{150}{12} \%$$

$$= \frac{25}{2} \% = 12.5\% \text{ Ans.}$$

(iii) A cupboard bought for Rs 2500 and sold at Rs 3000.

Sol.

$$C.P. = 2500 \text{ Rs}$$

$$S.P. = 3000 \text{ Rs}$$

$$\begin{aligned}\text{Profit} &= S.P. - C.P. \\ &= 3000 - 2500 \\ &= 500 \text{ Rs.}\end{aligned}$$

$$\text{Profit Percentage} = \frac{\text{Profit}}{C.P.} \times 100\%$$

$$= \frac{500}{2500} \times 100\%$$

$$= \frac{50}{25} \%$$

$$= 20\% \text{ Ans}$$

1(iv) A shirt bought for Rs 250 and sold at Rs 150.

(3)

Sol

$$C.P. = 250 \text{ Rs}$$

$$S.P. = 150 \text{ Rs.}$$

$$\therefore SP < CP$$

$$\therefore \text{Loss} = C.P. - S.P.$$

$$= 250 - 150 = 100 \text{ Rs.}$$

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

$$= \frac{100}{250} \times 100 \%$$

$$= 40 \% \text{ Ans}$$

2. A shopkeeper buys an article for Rs 735 and sold it for Rs 850. Find his Profit or Loss.

Sol

$$C.P. = 735 \text{ Rs}$$

$$S.P. = 850 \text{ Rs}$$

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

$$= 850 - 735$$

$$= 115 \text{ Rs Ans.}$$

3. Kirti bought a saree for Rs 2500 and sold it for Rs 2300. Find her loss and loss Percent.

Sol.

$$C.P. = 2500 \text{ Rs}$$

$$SP = 2300 \text{ Rs.}$$

$$\text{Loss} = C.P. - SP = 2500 - 2300 = 200 \text{ Rs}$$

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

(4)

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

$$= \frac{200}{25} \%$$

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

4. An article was sold for Rs 252 with a profit of 5%.
What was its cost price.

Sol.

$$\text{S.P.} = 252$$

$$\text{Profit Percentage} = 5 \%$$

$$\text{Let the Cost Price (C.P.)} = x$$

$$\text{Profit} = 5\% \text{ of C.P.}$$

$$= 5\% \text{ of } x$$

$$= x \times \frac{5}{100}$$

$$\text{Profit} = \frac{x}{20}$$

$$\therefore \text{Profit} = \text{S.P.} - \text{C.P.}$$

$$\frac{x}{20} = 252 - x$$

$$x = 20(252 - x)$$

$$x = 5040 - 20x$$

$$x + 20x = 5040$$

$$21x = 5040$$

$$x = \frac{5040}{21} = 240 \text{ Rs.}$$

$$\therefore \text{Cost Price} = \text{C.P.} = 240 \text{ Rs}$$

5. Amrit buys a book for Rs 275 and sells it at a loss of 15%. for how much does she sell it?

$$C.P. = 275 \text{ Rs}$$

$$\text{Loss \%} = 15 \%$$

$$\text{Loss} = 15\% \text{ of CP}$$

$$= \frac{15}{100} \times 275$$

$$= \frac{15 \times 11}{4} = \frac{165}{4} = 41.25 \text{ Rs.}$$

$$S.P. = C.P. - \text{Loss}$$

$$= 275 - 41.25$$

$$= 233.75 \text{ Rs. Ans.}$$

6. Juki sells a washing machine for Rs. 13500. She losses 20% in the bargain. What was the price at which she bought it?

Sol
=

$$S.P. = 13500 \text{ Rs.}$$

$$\text{loss \%} = 20 \%$$

$$C.P. = S.P. \times \left[\frac{100}{100 - \text{Loss \%}} \right]$$

$$= 13500 \times \left[\frac{100}{100 - 20} \right]$$

$$= 13500 \times \frac{100}{80} = \frac{135000}{8} = 16875 \text{ Rs.}$$

7. Anita takes a loan of Rs 5000 at 15% per Year as rate of interest. Find the interest she has to pay at the end of one year.

⑥

Sol

$$\text{Principal (P)} = 5000 \text{ Rs}$$

$$\text{Rate of interest (R)} = 15\%$$

$$\text{Time (T)} = 1 \text{ Year}$$

$$\begin{aligned}\text{Simple Interest (I)} &= \frac{P \times R \times T}{100} \\ &= \frac{5000 \times 15 \times 1}{100} \\ &= 750 \text{ Rs. Ans.}\end{aligned}$$

8 Find the amount to be paid at the end of 3 years in each case:

(i) Principal = Rs 1200 at 12% p.a.

Sol

$$P = 1200$$

$$R = 12\%$$

$$T = 3 \text{ Years}$$

$$\text{S.I} = \frac{P \times R \times T}{100} = \frac{1200 \times 12 \times 3}{100} = 432 \text{ Rs.}$$

$$\begin{aligned}\text{Amount} &= P + \text{S.I} = 1200 + 432 \\ &= 1632 \text{ Rs. Ans.}\end{aligned}$$

8(ii) Principal = Rs. 7500 at 5% p.a.

(2)

Sol $P = 7500 \text{ Rs}$

$$R = 5\%$$

$$T = 3 \text{ Years}$$

$$S.I. = \frac{P \times R \times T}{100}$$

$$= \frac{75\cancel{00} \times 5 \times 3}{1\cancel{00}}$$

$$= 1125 \text{ Rs.}$$

$$\text{Amount} = P + S.I.$$

$$= 7500 + 1125$$

$$= 8625 \text{ Rs. Ans.}$$

9. Find the time when simple interest on Rs. 2500 at 6% p.a. is Rs 450.

Sol. $P = 2500$

$$R = 6\%$$

$$S.I. = 450$$

$$\frac{P \times R \times T}{100} = 450$$

$$\frac{2500 \times 6 \times T}{100} = 450$$

$$T = \frac{450 \times 1\cancel{00}}{25\cancel{00} \times 6} = \frac{\overset{75}{450}}{25 \times \cancel{6}} = \frac{\overset{3}{75}}{25} = 3 \text{ Years Ans.}$$

10. Find the rate of interest when Simple interest on Rs 1560 in 3 years is Rs 585. (8)

Sol. $P = 1560 \text{ Rs}$
 $T = 3 \text{ Years}$
 $S.I. = 585 \text{ Rs}$

$$\frac{P \times R \times T}{100} = 585$$

$$\frac{1560 \times R \times 3}{100} = 585$$

$$R = \frac{585 \times 100}{1560 \times 3}$$

$$R = \frac{650}{156}$$

$$R = \frac{650}{156} = \frac{25}{2} = 12.5\% \text{ p.a. Ans.}$$

11. If Nakul gives an interest of Rs 45 for one year at 9% rate p.a. What is the sum he borrowed?

Sol. $S.I. = 45 \text{ Rs.}$
 $R = 9\%$
 $T = 1 \text{ Year}$

Let Principal amount be P.

$$\therefore S.I. = 45$$

$$\frac{P \times R \times T}{100} = 45$$

$$\frac{P \times 9 \times 1}{100} = 45$$

$$P = \frac{45 \times 100}{9}$$

$$P = 5 \times 100$$

$$P = 500 \text{ Rs. Ans.}$$

12. If Rs 14000 is invested at 4% per annum simple interest. How long will it take for the amount to reach Rs. 16240.

Sol

$$P = 14000 \text{ Rs.}$$

$$R = 4\%$$

$$\text{Amount} = A = 16240$$

$$S.I. = A - P$$

$$S.I. = 16240 - 14000$$

$$S.I. = 2240 \text{ Rs.}$$

$$\frac{P \times R \times T}{100} = 2240$$

$$\frac{14000 \times 4 \times T}{100} = 2240$$

$$140 \times 4 \times T = 2240$$

$$T = \frac{2240}{140 \times 4} = \frac{56}{14} = 4 \text{ years}$$

13. Multiple Choice Questions.

(i) (b) 25%.

(ii) (d) $16\frac{2}{3}\%$.

(iii) (c) 30000

(iv) (a) 25%.

(v) (b) 480 Rs

(vi) (c) 5280 Rs.