

Chapter 7 Percentage and Its Applications Ex 7.3

Questions 1.

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

Solution:

C.P. of calculate = ₹ 760

and S.P. = ₹ 874

Gain = S.P. - C.P. = ₹ 874 - ₹ 760 = ₹ 114

$$\text{Gain\%} = \frac{\text{Gain} \times 100}{\text{C.P.}} = \frac{114 \times 100}{760} = 15\%$$

Question 2.

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

Solution:

C.P. of a saree = ₹ 2500

and S.P. = ₹ 2300

Loss = C.P. - S.P. = ₹ 2500 - ₹ 2300 = ₹ 200

$$\begin{aligned} \text{Loss\%} &= \frac{\text{Loss} \times 100}{\text{C.P.}} \\ &= \frac{200 \times 100}{2500} = 8\% \end{aligned}$$

Question 3.

Tell what is profit or loss in the following transactions. Also find profit percent or loss percent in each case:

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

(ii) A shirt bought for ₹ 250 and sold at ₹ 150.

Solution:

(i) C.P. of gardening shears = ₹ 250 and S.P. = ₹ 325

Gain = S.P. – C.P. = ₹ 325 – ₹ 250 = ₹ 75

$$\text{Gain\%} = \frac{\text{Gain} \times 100}{\text{C.P.}} = \frac{75 \times 100}{250} = 30\%$$

(ii) C.P. of a shirt = ₹ 250 and S.P. = ₹ 150

Loss = C.P. – S.P. = ₹ 250 – ₹ 150 = ₹ 100

$$\text{Loss} = \frac{\text{Loss} \times 100}{\text{C.P.}} = \frac{100 \times 100}{250} = 40\%$$

Question 4.

Rajinder bought one almirah for ₹ 4800 and the other for ₹ 3640. He sold the first almirah at a gain of 13¹/₃ % and the other at a loss of 15%. How much did he gain or lose in the whole deal?

Solution:

C.P. of one almirah = ₹ 4800

$$\text{Gain\%} = 13\frac{1}{3}\% = \frac{40}{3}\%$$

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

$$= \frac{4800 \times \left(100 + \frac{40}{3}\right)}{100}$$

$$= \frac{4800 \times 340}{100 \times 3} = ₹5440$$

C.P. of second almirah = ₹3640

Loss% = 15%

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

$$= \frac{3640 \times (100 - 15)}{100}$$

$$= ₹ \frac{3640 \times 85}{100} = ₹3094$$

C.P. of both the almirahs = ₹ 4800 + ₹ 3640 = ₹ 8440

and S.P. = ₹ 5440 + ₹ 3094 = ₹ 8534

Total gain = S.P. - C.P. = ₹ 8534 - ₹ 8440 = ₹ 94

Question 5.

In a furniture shop, 24 tables were bought at the rate of ₹ 450 per table. The shopkeeper sold 16 of them at the rate of ₹ 600 per table and the remaining at the rate of ₹ 400 per table. Find his gain or loss percent.

Solution:

Price of one table = ₹ 450

C.P. of 24 tables = ₹ 450 × 24 = ₹ 10800

S.P. of 16 tables at the rate of ₹ 600 = ₹ 600 × 16 = ₹ 9600

S.P. of remaining (24 – 16) = 8 tables = ₹ 400 × 8 = ₹ 3200

Total S.P. = ₹ 10800 + ₹ 3200 = ₹ 14400

Gain = S.P. – C.P. = ₹ 14400 – ₹ 10800 = ₹ 3600

$$\text{Gain\%} = \frac{\text{Gain} \times 100}{\text{C.P.}} = \frac{3600 \times 100}{10800}$$

$$= \frac{100}{3} \% = 33\frac{1}{3} \%$$

Question 6.

By selling a fan for ₹ 810, a dealer makes a profit of ₹ 60. What is the cost price of the fan? What is his profit percent?

Solution:

S.P. of a fan = ₹ 810

Profit = ₹ 60

Cost price = S.P. – Profit = ₹ 810 – ₹ 60 = ₹ 750

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

$$= \frac{60 \times 100}{750} = 8\%$$

Question 7.

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.

Solution:

S.P. of a steel almirah = ₹ 3906

Loss = ₹ 294

C.P. = S.P. + Loss = ₹ 3906 + ₹ 294 = ₹ 4200

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

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

Question 8.

The cost price of a flower vase is ₹ 120. If the shopkeeper sells it at a loss of 10%, find the price at which it was sold.

Solution:

C.P. of a flower vase = ₹ 120

Loss = 10%

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

$$= ₹ \frac{120 \times (100 - 10)}{100}$$

$$= ₹ \frac{120 \times 90}{100} = ₹ 108$$

Question 9.

I buy a T.V. for ₹ 10000 and sell it at a profit of 20%. How much money do I get for it?

Solution:

C.P. of a T.V. = ₹ 10000

Profit = 20%

$$\begin{aligned}\therefore \text{S.P. of T.V.} &= \frac{\text{C.P.} \times (100 + \text{Profit \%})}{100} \\ &= ₹ \frac{10000 \times (100 + 20)}{100} \\ &= ₹ \frac{10000 \times 120}{100} = ₹12000\end{aligned}$$

Question 10.

A shopkeeper sells an article at ₹ 300, thus earning a profit of 20%. Find the cost price of the article.

Solution:

S.P. of an article = ₹ 300

Profit = 20%

$$\begin{aligned}\therefore \text{Cost price} &= \frac{\text{S.P} \times 100}{100 + \text{Profit \%}} \\ &= \frac{300 \times 100}{100 + 20} = \frac{300 \times 100}{120} = ₹250\end{aligned}$$

Question 11.

A shopkeeper sells an article at ₹ 320, thus suffering a loss of 20%. Find the cost price of the article.

Solution:

S.P. of an article = ₹ 320

Loss = 20%

$$\begin{aligned}\text{C.P.} &= \frac{\text{S.P.} \times 100}{100 - \text{Loss \%}} = \frac{320 \times 100}{100 - 20} \\ &= \frac{320 \times 100}{80} = ₹400\end{aligned}$$

Question 12.

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

Solution:

S.P. of a chair = ₹ 522

Profit = 16%

$$\begin{aligned}\therefore \text{C.P.} &= \frac{\text{S.P.} \times 100}{100 + \text{Profit \%}} = \frac{522 \times 100}{100 + 16} \\ &= ₹ \frac{522 \times 100}{116} = ₹ 450\end{aligned}$$

Question 13.

A trader sold some damaged garments for ₹ 7360 at a loss of 8%. Find the cost price of the garments.

Solution:

S.P. of damaged garments = ₹ 7360

Loss = 8%

$$\begin{aligned}\therefore \text{C.P.} &= \frac{\text{S.P.} \times 100}{100 - \text{Loss \%}} = \frac{7360 \times 100}{100 - 8} \\ &= \frac{7360 \times 100}{92} = ₹ 8000\end{aligned}$$

Question 14.

By selling a table for ₹ 3168, Rashid loses 12%. Find its cost price. What percent would he gain or lose by selling the table for ₹ 3870?

Solution:

S.P. of a table = ₹ 3168

Loss = 12%

$$\begin{aligned} \text{C.P.} &= \frac{\text{S.P.} \times 100}{100 - \text{Loss}\%} = \frac{3168 \times 100}{100 - 12} \\ &= \frac{3168 \times 100}{88} = ₹3600 \end{aligned}$$

If S.P. = ₹3870

Then gain = 3870 – 3600 = ₹270

$$\begin{aligned} \text{Gain}\% &= \frac{\text{Gain} \times 100}{\text{C.P.}} = \frac{270 \times 100}{3600} \\ &= \frac{15}{2} = 7\frac{1}{2}\% = 7.5\% \end{aligned}$$

Question 15.

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

Solution:

S.P. of an article = ₹ 4550

Loss = 9%

$$\begin{aligned} \therefore \text{C.P.} &= \frac{\text{S.P.} \times 100}{100 - \text{Loss}\%} = \frac{4550 \times 100}{100 - 9} \\ &= \frac{4550 \times 100}{91} = ₹5000 \end{aligned}$$

If S.P. is ₹4825

Then loss = ₹5000 – ₹4825 = ₹175

$$\begin{aligned} \text{Loss \%} &= \frac{\text{Loss} \times 100}{\text{C.P.}} \\ &= \frac{175 \times 100}{5000} = 3.5\% \end{aligned}$$

