12

PROFIT AND LOSS

12.1 INTRODUCTION

In the previous chapter, we have learnt about percentage and simple problems on computing percentage. In this chapter, we shall learn to apply the concept of percentage to find profit and loss in buying and selling goods in our day-to-day life.

12.2 PROFIT AND LOSS

In our day-to-day life, we buy goods from the shopkeepers in the market which they buy either directly from manufacturers or through wholesalers. In order to earn money, the shopkeepers sell goods at a rate that is higher than the rate at which they bought them. The price at which a shopkeeper buys the goods is called cost price as defined below.

COST PRICE *The money paid by the shopkeeper to buy the goods from a manufacturer or a wholesaler is called the cost price of the shopkeeper and it is abbreviated as C.P.*

As mentioned above that the shopkeepers sell goods at a price that is more than the price at which they bought them. This price is called the selling price as defined below.

SELLING PRICE *The price at which a shopkeeper sells the goods is called the selling price of the shopkeeper and it* is *abbreviated as S.P.*

If the selling price (S.P.) of an article is greater than the cost price (C.P.), then the shopkeeper makes a gain or profit and the amount of profit is equal to the difference between the selling price and the cost price. Thus, if S.P. > C.P. Then,

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

$$\Rightarrow \quad \text{S.P.} = \text{Profit} + \text{C.P.} \quad \text{and,} \quad \text{C.P.} = \text{S.P.} - \text{Profit}$$

If the selling price (S.P.) of an article is less than the cost price (C.P.), then the shopkeeper suffers a loss and the amount of loss is equal to the difference between the cost price (C.P.) and the selling price (S.P.). Thus, if S.P.< C.P., then

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

$$\Rightarrow \quad \text{S.P.} = \text{C.P.} - \text{Loss} \quad \text{and,} \quad \text{C.P.} = \text{S.P.} + \text{Loss}$$

Usually, a shopkeeper has to bear some additional expenses such as labour charges, freight charges and maintenance charges for the goods before they are sold. Such charges are called *overhead charges*.

The overhead charges become a part of the cost price. Thus, the effective cost price of the goods is equal to the sum of the actual payment made while purchasing the goods and overhead charges i.e,

Effective cost price = (Payment made while purchasing the goods) + (Overhead charges)

12.2.1 PROFIT PERCENT AND LOSS PERCENT

In order to compare the profit or loss in two or more sales, we usually express profit and loss

as a percent of the cost price. The profit percentage is the profit that would be obtained for a C.P. of Rs 100. Similarly, the loss percentage is the loss that would be made for a C.P. of Rs 100.

Thus, we have

$$\text{Profit per cent} = \frac{\text{Profit}}{\text{C.P.}} \times 100, \quad \text{Loss per cent} = \frac{\text{Loss}}{\text{C.P.}} \times 100$$

Following examples will illustrate the computation of profit and loss and also the profit and loss percentages.

ILLUSTRATIVE EXAMPLES

Type I ON FINDING PROFIT OR LOSS WHEN C.P. AND S.P. ARE GIVEN

Example 1 Given the following values, find the unknown values:

(i) C.P. = Rs 500, S.P = Rs 600, Profit/Loss = ?

(ii) C.P. = Rs 1270, S.P. = Rs 1250, Profit/Loss = ?

(iii) C.P. = ?, S.P. = Rs 2390, Profit = Rs 120.50

(iv) C.P. = Rs 72, S.P. = ?, Loss = Rs 15.601

Solution

(i) We have, C.P. = Rs 500, S.P. = Rs 600

Clearly, S.P. > C.P. So, there will be profit given by

Profit = S.P. – C.P. = Rs (600 – 500) = Rs 100

(ii) We have, C.P = Rs 1270 , S.P. = Rs 1250

Since C.P. > S.P. So, there will be loss given by

Loss = C.P. – S.P. = Rs (1270 – 1250) = Rs 20

(iii) We have, S.P. = Rs 2390 and Profit = Rs 120.50

$\therefore$ Profit = S.P. – C .P.

$\Rightarrow$ C.P. = S. P. – Profit

$\Rightarrow$ C.P. = Rs 2390 – Rs 120.50 = Rs (2390 – 120.50) = Rs 2269.50

(iv) We have, C.P. = Rs 72 and Loss = Rs 15.60

$\therefore$ Loss = C.P. – S.P.

$\Rightarrow$ S.P. = C.P. – Loss = Rs 72 – Rs 15.60 = Rs (72 – 15.60) = Rs 56.40

Type II ON COMPUTING C.P. OR S.P. WHEN PROFIT OR LOSS IS GIVEN

Example 2 Compute the missing enteries in the following table (whereever possible):

	Cost price (C.P.)	*Overhead expenses*	*Selling price (S.P)*	*Profit*	*Loss*
(i)	Rs 450	Rs 70	—	Rs 85	—
(ii)	Rs 8000	Rs 200	—	—	Rs 530
(iii)	Rs 32000	Rs 3000	Rs 38000	—	—
(iv)	Rs 750	Rs 20	—	Rs 50	—
(v)	Rs 1050	Rs 50	—	—	Rs 70

Solution (i) We have, C.P. = Rs 450 and Overhead expenses = Rs 70.

$\therefore$ Effective cost price = Rs (450 + 70) = Rs 520.

Now,

Profit = S.P. – Effective C.P.

$\Rightarrow$ S.P. = Effective C.P. + Profit

$\Rightarrow$ S.P. = Rs (520 + 85) [$\because$ Profit = Rs 85 (given)]

$\Rightarrow$ S.P. = Rs 605

(ii) We have, C.P. = Rs 8000, Overhead expenses = Rs 200 and Loss = Rs 530

Now,

Effective cost price (E.C.P.) = C.P. + Overhead expenses

$\Rightarrow$ Effective cost price (E.C.P.) = Rs (8000 + 200) = Rs 8200

We know that

Loss = E.C.P. – S.P.

$\therefore$ S.P. = E.C.P. – Loss

= Rs (8200 – 530) = Rs 7670

(iii) We have, C.P. = Rs 32000, Overhead expenses = Rs 3000 and S.P. = Rs 38000.

$\therefore$ E.C.P. = C.P. + Overhead expenses

$\Rightarrow$ E.C.P. = Rs (32000 + 3000) = Rs 35000

We have,

S.P. = Rs 38000

Clearly, E.C.P. < S.P. Therefore, there will be profit given by

Profit = S.P. – E.C.P. = Rs (38000 – 35000) = Rs 3000.

(iv) We have, C.P. = Rs 750, Overhead expenses = Rs 20 and Profit = Rs 50.

Now,

E.C.P. = C.P. + Overhead expenses = Rs (750 + 20) = Rs 770.

It is given that there is profit of Rs 50.

$\therefore$ S.P. = E.C.P. + Profit = Rs (770 + 50) = Rs 820.

(v) We have, C.P. = Rs 1050, Overhead expenses = Rs 50 and Loss = Rs 70.

$\therefore$ E.C.P. = C.P. + Overhead expenses = Rs (1050 + 50) = Rs 1100.

It is given that there is loss of Rs 70.

$\therefore$ S.P. = E.C.P. – Loss = Rs(1100 – 70) = Rs 1030

Type III ON FINDING PROFIT OR LOSS PER CENT

Example 3 Find the gain or loss percent, if

(i) C.P. = Rs 500 and S.P. = Rs 565 (ii) C.P. = Rs 700 and S.P. = Rs 630

Solution (i) We have, C.P. = Rs 500 and S.P. = Rs 565

Since S.P. > C.P. Therefore, there is gain given by

Gain = S.P. – C.P. = Rs 565 – Rs 500 = Rs 65

$\therefore$ Gain per cent $= \left(\frac{\text{Gain}}{\text{C.P}} \times 100\right)\% = \left(\frac{65}{500} \times 100\right)\% = 13\%$

(ii) Since C.P. = Rs 700 and S.P. = Rs 630

Clearly, S.P. < C.P. So, There is loss given by

Loss = C.P. – S.P. = Rs (700 – 630) = Rs 70

$\therefore$ Loss per cent $= \left(\frac{\text{Loss}}{\text{C.P}} \times 100\right)\% = \left(\frac{70}{700} \times 100\right)\% = 10\%$

Example 4 If the profit made on a packet of tea is Rs 4 and the cost price of the packet is Rs 20, then how much is the profit percentage?

Solution We have, C.P. = Rs 20 and Profit = Rs 4.

$\therefore$ Profit Per cent $= \left(\frac{\text{Profit}}{\text{C.P.}} \times 100\right)\% = \left(\frac{4}{20} \times 100\right)\% = 20\%$

Example 5 A box of Alphonso mangoes was purchased by a fruit-seller for Rs 300. However, he had to sell them for Rs 255 because they began to get over ripe. What was the loss percentage?

Solution We have, C.P. = Rs 300 and S.P. = Rs 255

Since C.P. > S.P. Therefore, there is loss given by

Loss = C.P. – S.P. = Rs (300 – 255) = Rs 45

Now,

Loss per cent $= \left(\frac{\text{Loss}}{\text{C.P.}} \times 100\right)\% = \left(\frac{45}{300} \times 100\right)\% = 15\%$

Hence, there was 15% loss.

Example 6 Karim bought 150 dozens pencils at Rs 10 a dozen. His overhead expenses were Rs 100. He sold them at Rs 1.20 each. What was his profit or loss percent?

Solution We have,

Cost price of one dozen pencils = Rs 10

Cost price of 150 dozens pencils = Rs (150 × 10) = Rs 1500

Overhead expenses = Rs 100

$\therefore$ Effective cost price = Rs (1500 + 100) = Rs 1600

Now,

Selling price of one pencil = Rs 1.20

$\therefore$ Selling price of one dozen pencils = Rs (12 × 1.20) = Rs 14.40

$\therefore$ Selling price of 150 dozens pencils = Rs (14.40 × 150) = Rs 2160

Here, S.P. > E.C.P. So, there is profit given by

Profit = S.P. – E.C.P. = Rs 2160 – Rs 16000 = Rs 560

Now, Profit per cent $= \left(\frac{\text{Profit}}{\text{E.C.P.}} \times 100\right)\% = \left(\frac{560}{1600} \times 100\right)\% = 35\%$

Example 7 Subramaniam bought 100 eggs for Rs 50. Out of these, 4 eggs were found to be broken. He sold the remaining eggs at the rate of Rs 8.50 per dozen. Find his gain or loss percent.

Solution We have,
C.P. of 100 eggs = Rs 50.
It is given that 4 eggs were found to be broken.
$\therefore$ The number of remaining eggs which were sold in the market = 100– 4 = 96.
It is given that the remaining eggs were sold at the rate of Rs 8.50 per dozen.
$\therefore$ S.P. of 12 eggs = Rs 8.50

$\Rightarrow$ S.P. of 1 egg $= \text{Rs } \frac{8.50}{12}$

$\therefore$ S.P. of 96 eggs $= \text{Rs} = \left(\frac{8.50}{12} \times 96\right) = \text{Rs } 68$

Clearly, S.P. > C.P. So, there is gain given by
Gain = S.P. – C.P. = Rs 68 – Rs 50 = Rs 18

$\therefore$ Gain per cent $= \left(\frac{\text{Gain}}{\text{C.P.}} \times 100\right)\% = \left(\frac{18}{50} \times 100\right)\% = 36\%$

Example 8 A grocer buys eggs at 10 for Rs 8 and sells at 8 for Rs 10. Find his gain or loss percent.

Solution We have, L.C.M. of 10 and 8 = 40. So, let the number of eggs bought be 40.
Now,
C.P. of 10 eggs = Rs 8

$\therefore$ C.P. of 40 eggs $= \text{Rs} \left(\frac{8}{10} \times 40\right) = \text{Rs } 32$

Again, S.P. of 8 eggs = Rs 10

$\therefore$ S.P. of 40 eggs $= \text{Rs} \left(\frac{10}{8} \times 40\right) = \text{Rs } 50$

Now, C.P. = Rs 32 and S.P. = Rs 50
Clearly, S.P. > C.P. So, there is gain given by
Gain = S.P. – C.P. = Rs 50 – Rs 32 = Rs 18

$\therefore$ Gain per cent $= \left(\frac{\text{Gain}}{\text{C.P.}} \times 100\right)\% = \left(\frac{18}{32} \times 100\right)\% = \frac{225}{4}\% = 56\frac{1}{4}\%$

Example 9 The selling price of 10 articles is the same as the cost price of 11 articles, find gain percent.

Solution Let the cost price of each article be Rs x
We have,
S.P. of 10 articles = C.P. of 11 articles = Rs $11x$.
C.P. of 10 articles = $10x$
$\therefore$ Gain on the purchase of articles = Rs $11x$ – Rs $10x$ = Rs x
Hence, Gain percent $= \left(\frac{\text{Gain}}{\text{C.P.}} \times 100\right)\% = \left(\frac{x}{10x} \times 100\right)\% = 10\%$

Example 10 Neeru bought 1600 bananas at Rs 3.75 a dozen. She sold 900 of them at 2 for Re 1 and the remaining at 5 for Rs 2. Find her gain or loss percent.

Solution We have,
Cost of one dozen of bananas = Rs 3.75

$\therefore$ Cost of 1600 bananas $= \text{Rs}\left(\frac{3.75}{12}\times 1600\right) = \text{Rs}\ \frac{375\times 16}{12} = \text{Rs}\ 500$

Thus, C.P. of 1600 bananas = Rs 500

Now, Selling price of 900 bananas at the rate of 2 for Re 1 $= \text{Rs}\ \frac{900}{2} = \text{Rs}\ 450$

Selling price of the remaining i.e., 1600 – 900 = 700 bananas at the rate of 5 for Rs 2

$= \text{Rs}\left(\frac{2}{5}\times 700\right) = \text{Rs}\ 280$

$\therefore$ S.P. of 1600 bananas = Rs (450 + 280) = Rs 730

Since S.P. > C.P. So, there is gain given by

Gain = S.P. – C.P. = Rs (730 – 500) = Rs 230

Hence, Gain percent $= \left(\frac{\text{Gain}}{\text{C.P.}}\times 100\right)\% = \left(\frac{230}{500}\times 100\right)\% = 46\%$

Type IV **ON FINDING THE S.P. WHEN C.P. AND PROFIT OR LOSS PER CENT ARE GIVEN**

Example 11 Bashir bought an article for Rs 1215 and spent Rs 35 on its transportation. At what price should he sell the article to have a gain of 16%?

Solution The effective cost price of the article is equal to the price at which it was bought plus the transportation charge.

$\therefore$ C.P. of the given article = Rs (1215 + 35) = Rs 1250

Gain percent = 16%

$\therefore$ Gain = 16% of cost price $= \text{Rs}\left(\frac{16}{100}\times 1250\right) = \text{Rs}\ 200$

$\therefore$ S.P. = C.P. + Gain = Rs 1250 + Rs 200 = Rs 1450

Example 12 Krishnamurti bought oranges at Rs 5 a dozen. He had to sell them at a loss of 4%. Find the selling price of one orange.

Solution We have, C.P. of one dozen oranges = Rs 5.

Loss percent = 4%

$\therefore$ Loss = 4% of Rs 5 $= \text{Re}\left(\frac{4}{100}\times 5\right) = \text{Re}\left(\frac{1}{5}\right)$

$\therefore$ S.P. = C.P. – Loss $= \text{Rs}\left(5-\frac{1}{5}\right) = \text{Rs}\ \frac{24}{5}$

Thus, S.P. of one dozen oranges $= \text{Rs}\ \frac{24}{5}$

$\therefore$ S.P. of one orange $= \text{Re}\left(\frac{24}{5}\times\frac{1}{12}\right) = \text{Re}\ \frac{2}{5} = \frac{2}{5}\times 100$ paise = 40 paise

Example 13 A vendor purchased 40 dozen bananas for Rs 250. Out of these, 30 bananas were rotten and could not be sold. At what rate per dozen should he sell the remaining bananas to make a profit of 20%

Solution We have,

C.P. of bananas = Rs 250, Gain required = 20%

$\therefore$ Gain = 20% of C.P. = 20 % of Rs 250 = Rs $\left(\frac{20}{100}\times 250\right)$ = Rs 50

Now, S.P. = C.P. + Gain

$\Rightarrow$ S.P. = Rs 250 + Rs 50 = Rs 300

Number of good bananas = $(40\times 12-30)=450$

$\therefore$ S.P. of 450 bananas = Rs 300

$\Rightarrow$ S.P. of 12 bananas = Rs $\left(\frac{300}{450}\times 12\right)$ = Rs 8

Hence, the vendor should sell the remaining bananas at Rs 8 per dozen to make a profit of 20%

Type V ON FINDING THE COST PRICE WHEN S.P. AND PROFIT OR LOSS ARE GIVEN

Example 14 A man sells his scooter for Rs 18000 making a profit of 20%. How much did the scooter cost him?

Solution Let the cost price of the scooter be Rs 100. Then, Profit = Rs 20

$\therefore$ S.P. = C.P. + Profit = Rs 100 + Rs 20 = Rs 120

Thus, if the S.P. is Rs 120, then C.P. = Rs 100

If the S.P. is Rs 18000, then C.P. = Rs $\left(\frac{100}{120}\times 18000\right)$ = Rs 15000

Hence, the cost of the scooter = Rs 15000

Example 15 By selling an A.C. for Rs 18000, I loose 20%. What did I pay for it?

Solution We have, S.P. = Rs 18000, and Loss = 20%

Let the C.P. of A.C. be Rs 100. Then,

Loss = C.P. – S.P.

$\Rightarrow$ S.P. = C.P. – Loss = Rs 100 – Rs 20 = Rs 80

Thus, if the S.P. is Rs 80, then C.P. = Rs 100

If the S.P. is 18000, then C.P. = Rs $\frac{100}{80}\times 18000$ = Rs 22500

Example 16 A farmer sells his product at a loss of 8%. If his S.P. was Rs 27600, what was his actual loss? What was his cost price?

Solution Let the cost price of the product be Rs 100. Then,

Loss = 8% $\Rightarrow$ Loss 8% of Rs 100 = Rs 8

$\therefore$ S.P. = C.P. – Loss = Rs 100 – Rs 8 = Rs 92

Thus, if S.P. is Rs 92, then C.P. = Rs 100

If S.P. is Rs 27600, then C.P. = Rs $\left(\frac{100}{92}\times 27600\right)$ = Rs 30000

Hence, C.P. = Rs 30000.

Actual loss = C.P. – S.P. = Rs 30000 – Rs 27600 = Rs 2400

EXERCISE 12.1

1. Given the following values, find the unknown values:
   (i) C.P. = ₹ 1200, S.P. = ₹ 1350, Profit/Loss = ?
   (ii) C.P. = ₹ 980, S.P. = ₹ 940, Profit/Loss = ?
   (iii) C.P. = ₹ 720, S.P. = ?, Profit = ₹ 55.50
   (iv) C.P. = ? S.P. = ₹ 1254, Loss = ₹ 32
2. Fill in the blanks in each of the following:
   (i) C.P. = ₹ 1265, S.P. = ₹ 1253, Loss = ₹ .....
   (ii) C.P. = ₹ ...., S.P. = ₹ 450, Profit = ₹ 150
   (iii) C.P. = ₹ 3355, S.P. = ₹ 7355, Profit = ₹ ....
   (iv) C.P. = ₹ ...., S.P. = ₹ 2390, Loss = ₹ 5.50
3. Calculate the profit or loss and profit or loss per cent in each of the following cases:
   (i) C.P. = ₹ 4560, S.P. = ₹ 5000 (ii) C.P. = ₹ 2600, S.P. = ₹ 2470
   (iii) C.P. = ₹ 332, S.P. = ₹ 350 (iv) C.P. = ₹ 1500, S.P. = ₹ 1500
4. Find the gain or loss per cent, when:
   (i) C.P. = ₹ 4000 and gain = ₹ 40. (ii) S.P. = ₹ 1272 and loss = ₹ 328
   (iii) S.P. = ₹ 1820 and gain = ₹ 420.
5. Find the gain or loss per cent, when:
   (i) C.P. = ₹ 2300, Overhead expenses = ₹ 300 and gain = ₹ 260.
   (ii) C.P. = ₹ 3500, Overhead expenses = ₹ 150 and loss = ₹ 146
6. A grain merchant sold 600 quintals of rice at a profit of 7%. If a quintal of rice cost him ₹ 250 and his total overhead charges for transportation, etc. were ₹ 1000 find his total profit and the selling price of 600 quintals of rice.
7. Naresh bought 4 dozen pencils at ₹ 10.80 a dozen and sold them for 80 paise each. Find his gain or loss percent.
8. A vendor buys oranges at ₹ 26 per dozen and sells them at 5 for ₹ 13. Find his gain per cent.
9. Mr Virmani purchased a house for ₹ 365000 and spent ₹ 135000 on its repairs. If he sold it for ₹ 550000, find his gain percent.
10. Shikha purchased a wrist watch for ₹ 840 and sold it to her friend Vidhi for ₹ 910. Find her gain percent.
11. A business man makes a 10% profit by selling a toy costing him ₹ 120. What is the selling price ?
12. Harish purchased 50 dozen bananas for ₹135. Five dozen bananas could not be sold because they were rotten. At what price per dozen should Harish sell the remaining bananas so that he makes a profit of 20% ?
13. A woman bought 50 dozen eggs at ₹ 6.40 a dozen. Out of these 20 eggs were found to be broken. She sold the remaining eggs at 55 paise per egg. Find her gain or loss percent.
14. Jyotsana bought 400 eggs at ₹ 8.40 a dozen. At what price per hundred must she sell them so as to earn a profit of 15% ?

5. A shopkeeper makes a profit of 15% by selling a book for ₹ 230. What is the C.P. and the actual profit ?

6. A bookseller sells all his books at a profit of 10%. If he buys a book from the distributor at ₹ 200, how much does he sell it for ?

7. A florist buys 100 dozen roses at ₹ 2 a dozen. By the time the flowers are delivered, 20 dozen roses are mutilated and are thrown away. At what price should he sell the rest if he needs to make a 20% profit on his purchase ?

8. By selling an article for ₹ 240, a man makes a profit of 20%. What is his C.P. ? What would his profit percent be if he sold the article for ₹ 275 ?

ANSWERS

1. (i) Profit = ₹ 150 (ii) Loss = ₹ 40 (iii) S.P. = ₹ 775.50 (iv) C.P. = ₹ 1286
2. (i) Loss = ₹ 12 (ii) C.P. = ₹ 300 (iii) Profit = ₹ 4000 (iv) C.P. = ₹ 2395.50
3. (i) Profit = ₹ 440, Profit % = 9.65% (ii) Loss = ₹ 130, Loss % = 5% (iii) Profit = ₹ 18, Profit % = 5.42% (iv) Profit = 0, Profit % = 0%
4. (i) Gain = 1% (ii) Loss = 20.5% (iii) Gain = 30%
5. (i) Gain = 10% (ii) Loss = 4%
6. Profit = ₹ 10570, Selling price : ₹ 161570
7. Loss = $\frac{100}{9}$ % 8. 20 % 9. 10 % 10. $\frac{25}{3}$ % 11. ₹ 132
12. ₹ 3.60 13. $\frac{5}{16}$ % loss 14. ₹ 80.50 15. C.P. = ₹ 200, Profit = ₹ 30
16. ₹ 220 17. ₹ 3 per dozen 18. C.P. = ₹ 200, 37.5%

OBJECTIVE TYPE QUESTIONS

Mark the correct alternative in each of the following:

1. If CP = ₹ 200 and SP = ₹ 250, then the profit or loss is equal to
   (a) ₹ 50 loss (b) ₹ 50 profit (c) ₹ 25 profit (d) ₹ 25 loss
2. If CP = ₹ 120 and SP = ₹ 80, then profit or loss is equal to
   (a) ₹ 40 loss (b) ₹ 60 loss (c) ₹ 40 profit (d) ₹ 60 profit
3. A trader purchased a bicycle for ₹ 2500 and sold at ₹ 2700. His profit percentage is
   (a) 8 % (b) 10 % (c) 6 % (d) 4 %
4. If CP = ₹ 950 and gain 6 %, then S.P. =
   (a) ₹ 1100 (b) ₹ 1117 (c) ₹ 1107 (d) ₹ 1170
5. If S.P. = ₹ 924 and gain = 10 %, then C.P. =
   (a) ₹ 480 (b) ₹ 804 (c) ₹ 408 (d) ₹ 840
6. On selling a pen for ₹ 100, a shopkeeper gains ₹ 15. The cost price of the pen is
   (a) ₹ 115 (b) ₹ 85 (c) ₹ 70 (d) ₹ 130
7. On selling a plastic chair for ₹ 630, a man loses 10 %, the cost price of the chair is
   (a) ₹ 567 (b) ₹ 693 (c) ₹ 700 (d) ₹ 730
8. The C.P. of a chair is ₹ 3300. If it is sold at a loss of 10 %, then SP is
   (a) ₹ 3000 (b) ₹ 3070 (c) ₹ 2790 (d) ₹ 2970
9. If the cost price of 15 pens is equal to the selling price of 20 pens, than the loss per cent is
   (a) 25 % (b) 20 % (c) 15 % (d) 10 %

10. A vendor bought lemons at 6 for a rupee and sold them at 4 for a rupee. His gain % is

(a) 50 % (b) 40 % (c) $33\frac{1}{3}\%$ (d) $16\frac{2}{3}\%$

11. On selling a pen for ₹ 48, a shopkeeper loses 20 %. In order to gain 20 % what should be the selling price?

(a) ₹ 52 (b) ₹ 56 (c) ₹ 68 (d) ₹ 72

12. On selling an article for ₹ 144 a man loses 10 %. At what price should he sell it to gain 10 %?

(a) ₹ 158.40 (b) ₹ 172.80 (c) ₹ 176 (d) ₹ 192

13. If the cost price of 15 pens is equal to the selling price of 20 pens, then the loss per cent is

(a) 25 % (b) 20 % (c) 15 % (d) 18 %

14. If the cost price of 6 pencils is equal to the selling price of 5 pencils, then the gain per cent is

(a) 10 % (b) 20 % (c) 15 % (d) 25 %

ANSWERS

1. (b)	2. (a)	3. (a)	4. (c)	5. (d)	6. (b)	7. (c)
8. (d)	9. (a)	10. (a)	11. (d)	12. (c)	13. (a)	14. (b)

THINGS TO REMEMBER

1. *The money paid by the shopkeeper to buy the goods from a manufacturer or a wholesaler is called the cost price of the shopkeeper. The cost price is abbreviated as C.P.*
2. *The price at which a shopkeeper sells the goods is called the selling price of the shopkeeper. The selling price is abbreviated as S.P.*
3. *Effective cost = Cost price + Overhead charges.*
4. *If S.P. > C.P., then there is gain given by Gain = S.P. – C.P.*
5. *If S.P. < C.P., then there is loss given by Loss = C.P. – S.P.*
6. *Gain or loss is calculated on the cost price.*
7. *Gain percent* $= \left(\frac{Gain}{C.P.} \times 100\right)$ *and Loss percent* $= \left(\frac{Loss}{C.P} \times 100\right)$.