# Chapter 13: Profit – Loss

## PRACTICE SET 31 [PAGE 67]

### Practice Set 31 | Q 1.1 | Page 67

The cost price and selling price are given in the following table. Find out whether there was a profit or a loss and how much it was.

| Cost Price (in Rs.) | Selling Price (in Rs) | Profit or Loss | How much? |
|---|---|---|---|
| 4500 | 5000 | | |

*SOLUTION*

Cost price = Rs 4500; Selling price = Rs 5000

Here selling price is more than cost price, so there is a profit.

Profit = Selling price − Cost price

= 5000 − 4500

= Rs 500

Hence, there is a profit of Rs 500.

| Cost Price (in Rs.) | Selling Price (in Rs) | Profit or Loss | How much? |
|---|---|---|---|
| 4500 | 5000 | Profit | Rs. 500 |

### Practice Set 31 | Q 1.2 | Page 67

The cost price and selling price are given in the following table. Find out whether there was a profit or a loss and how much it was.

| Cost Price (in Rs.) | Selling Price (in Rs) | Profit or Loss | How much? |
|---|---|---|---|
| 4100 | 4090 | | |

*SOLUTION*

Cost price = Rs 4100; Selling price = Rs 4090

Here selling price is less than cost price, so there is a loss.

Loss = Cost price − Selling price

= 4100 − 4090

= Rs 10

Hence, there is a loss of Rs 10.

| Cost Price (in Rs.) | Selling Price (in Rs) | Profit or Loss | How much? |
|---|---|---|---|
| 4100 | 4090 | Loss | Rs. 10 |

## Practice Set 31 | Q 1.3 | Page 67

The cost price and selling price are given in the following table. Find out whether there was a profit or a loss and how much it was.

| Cost Price (in Rs.) | Selling Price (in Rs) | Profit or Loss | How much? |
|---|---|---|---|
| 700 | 799 | | |

*SOLUTION*

Cost price = Rs 700; Selling price = Rs 799

Here selling price is more than cost price, so there is a profit.

Profit = Selling price − Cost price

= 799 − 700

= Rs 99

Hence, there is a profit of Rs 99.

| Cost Price (in Rs.) | Selling Price (in Rs) | Profit or Loss | How much? |
|---|---|---|---|
| 700 | 799 | Profit | Rs. 99 |

## Practice Set 31 | Q 1.4 | Page 67

The cost price and selling price are given in the following table. Find out whether there was a profit or a loss and how much it was.

| Cost Price (in Rs.) | Selling Price (in Rs) | Profit or Loss | How much? |
|---|---|---|---|

| | | | |
|---|---|---|---|
| 1000 | 920 | | |

*SOLUTION*

Cost price = Rs 1000; Selling price = Rs 920

Here selling price is less than cost price, so there is a loss.

Loss = Cost price − Selling price

= 1000 − 920

= Rs 80

Hence, there is a loss of Rs 80.

| Cost Price (in Rs.) | Selling Price (in Rs) | Profit or Loss | How much? |
|---|---|---|---|
| 1000 | 920 | Loss | Rs. 80 |

**Practice Set 31 | Q 2 | Page 67**

A shopkeeper bought a bicycle for Rs 3000 and sold the same for Rs 3400. How much was his profit?

*SOLUTION*

Cost price of bicycle = Rs 3000

Selling price of bicycle = Rs 3400

Since selling price > cost price, so there is a profit.

Profit = Selling price − Cost price

= 3400 − 3000

= Rs 400

∴ The shopkeeper made a profit of Rs 400 in this transaction.

**Practice Set 31 | Q 3 | Page 67**

Sunandabai bought milk for Rs 475. She converted it into yoghurt and sold it for Rs 700. How much profit did she make?

SOLUTION

Cost price = Rs 475; Selling price = Rs 700

Since selling price is more than cost price, so there is a profit.

Profit = Selling price − Cost price

= 700 − 475

= Rs 225

∴ Sunandabai made a profit of Rs 225 in this transaction.

**Practice Set 31 | Q 4 | Page 67**

The Jijamata Women's Saving Group bought raw materials worth Rs 15000 for making chakalis. They sold the chakalis for 22050 rupees. How much profit did the WSG make?

*SOLUTION*

Cost price of raw material for making chakalis = Rs 15000

Selling price of chakalis = Rs 22050

Since selling price is more than cost price, so there is a profit.

Profit = Selling price − Cost price

= 22050 − 15000

= Rs 7050

∴ WSG made a profit of Rs 7050 in this transaction.

**Practice Set 31 | Q 5 | Page 67**

Pramod bought 100 bunches of methi greens for Rs 400. In a sudden downpour, 30 of the bunches on his handcart got spoilt. He sold the rest at the rate of Rs 5 each. Did he make a profit or a loss? How much?

*SOLUTION*

Cost price of 100 bunches of methi greens = Rs 400

Number of bunches of methi greens spoilt = 30

∴ Number of bunches left = 100 − 30 = 70

Selling price of 1 bunch of methi greens = Rs 5

So, selling price of 70 bunches of methi greens = 5 × 70 = Rs 350

Since selling price is less than cost price, so there is a loss.

Loss = Cost price − Selling price

= 400 − 350

= Rs 50

Hence, Pramod suffered a loss of Rs 50 in this transaction.

**Practice Set 31 | Q 6 | Page 67**

Sharad bought one quintal of onions for Rs 2000. Later he sold them all at the rate of Rs 18 per kg. Did he make a profit or incurs a loss? How much was it?

*SOLUTION*

Cost price of 1 quintal of onions = Rs 2000

We know that, 1 quintal = 100 kg.

Selling price of 1 kg of onions = Rs 18

∴ Selling price of 100 kg (or 1 quintal) of onions = 18 × 100 = Rs 1800

Since selling price is less than cost price, so there is a loss.

Loss = Cost price − Selling price

= 2000 − 1800

= Rs 200

Hence, Sharad incurred a loss of Rs 200 in this transaction.

**Practice Set 31 | Q 7 | Page 67**

Kantabai bought 25 saris from a wholesale merchant for Rs 10000 and sold them all at Rs 460 each. How much profit did Kantabai get in this transaction?

*SOLUTION*

Cost price of 25 saris = Rs 10000

Selling price of 1 sari = Rs 460

∴ Selling price of 25 saris = 25 × 460 = Rs 11500

Since selling price is more than cost price, so there is a profit.

Profit = Selling price − Cost price

= 11500 − 10000

= Rs 1500

Hence, Kantabai made a profit of Rs 1500 in this transaction.

## PRACTICE SET 32 [PAGE 69]

**Practice Set 32 | Q 1 | Page 69**

From a wholesaler, Santosh bought 400 eggs for Rs 1500 and spent Rs 300 on transport. 50 eggs fell down and broke. He sold the rest at Rs 5 each. Did he make a profit or a loss? How much?

*SOLUTION*

Cost price of 400 eggs = Rs 1500

Money spent on transport = Rs 300

Total cost price = cost of 400 eggs + Transport charges

= 1500 + 300

= Rs 1800

Number of eggs broken = 50

∴ Number of remaining eggs = 400 − 50 = 350

Selling price of 1 egg = Rs 5

∴ Selling price of 350 eggs = 5 × 350 = Rs 1750

That is, total selling price = Rs 1750

Since total selling price is less than total cost price, so there is a loss.

Loss = Total cost price − Total selling price

= 1800 − 1750

= Rs 50

∴ Santosh suffered a loss of Rs 50 in this transaction.

**Practice Set 32 | Q 2 | Page 69**

Abraham bought goods worth Rs 50000 and spent Rs 7000 on transport and octroi. If he sold the goods for Rs 65000, did he make a profit or a loss? How much?

*SOLUTION*

Cost price of the goods = Rs 50000

Money spent on transport and octroi = Rs 7000

Total expenses while buying goods = cost of goods + money spent on transport and octroi

= 50000 + 7000

= Rs 57000

That is, total cost price = Rs 57000

Selling price of the goods = Rs 65000

Since selling price is more than cost price, so there is a profit.

Profit = Selling price − Total cost price

= 65000 − 57000

= Rs 8000

∴ Abraham made a profit of Rs 8000 in this transaction.

**Practice Set 32 | Q 3 | Page 69**

Ajit Kaur bought a 50 kg sack of sugar for Rs 1750, but as sugar prices fell she had to sell it at Rs 32 per kg. How much loss did she incur?

*SOLUTION*

Cost price of 50 kg of sugar = Rs 1750

Selling price of 1 kg of sugar = Rs 32

∴ Selling price of 50 kg of sugar = 50 × 32 = Rs 1600

Since selling price is less than cost price, so there is a loss.

Loss = Cost Price − Selling Price

= 1750 − 1600

= Rs 150

∴ Ajit Kaur incurred a loss of Rs 150 in this transaction.

**Practice Set 32 | Q 4 | Page 69**

Kusumtai bought 80 cookers at Rs 700 each. Transport cost her Rs 1280. If she wants a profit of Rs 18000, what should be the selling price per cooker?

*SOLUTION*

Cost price of 1 cooker = Rs 700

∴ Cost price of 80 cookers = 80 × 700 = Rs 56000

Money spent on transport = Rs 1280

Total cost price = cost of 80 cookers + money spent on transport

= 56000 + 1280

= Rs 57280

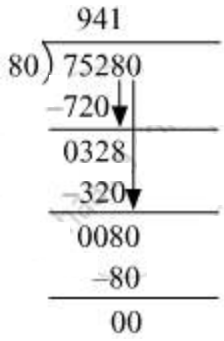
Kusumtai wants a profit of Rs 18000.

∴ Selling price of 80 cookers = Profit + Total cost price

= 18000 + 57280

= Rs 75280

∴ Selling price of 1 cooker = 75280 ÷ 80 = Rs 941




Hence, Kusumtai should sell every cooker for Rs 941.

**Practice Set 32 | Q 5 | Page 69**

Indrajit bought 10 refrigerators at Rs 12000 each and spent Rs 5000 on transport. For how much should he sell each refrigerator in order to make a profit of Rs 20000?

*SOLUTION*

Cost price of 1 refrigerator = Rs 12000

∴ Cost price of 10 refrigerators = 10 × 12000 = Rs 120000

Money spent on transport = Rs 5000

Total cost price = cost of 10 refrigerators + transport charges

= 120000 + 5000

= Rs 125000

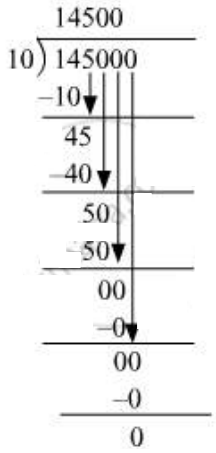
Indrajit wants a profit of Rs 20000.

∴ Selling price of 10 refrigerators = Profit + Total cost price

= 20000 + 125000

= Rs 145000

∴ Selling price of 1 refrigerator = 145000 ÷ 10 = Rs 14500



Hence, Indrajit should sell every refrigerator for Rs 14500.

**Practice Set 32 | Q 6 | Page 69**

Lalitabai sowed seeds worth Rs 13700 in her field. She had to spend Rs 5300 on fertilizers and spraying pesticides and Rs 7160 on labour. If, on selling her produce, she earned Rs 35400 what was her profit or her loss?

*SOLUTION*

Cost price of seeds = Rs 13700

Money spent on fertilizers = Rs 5300

Money spent on labour = Rs 7160

Total expenses = Cost of seeds + money spent on fertilizers + labour charges

= 13700 + 5300 + 7160

= Rs 26160

That is, total cost price is Rs 26160.

Selling price of the produce = Rs 35400

Since selling price is more than total cost price, so there is a profit.

Profit = Selling price − total cost price

= 35400 − 26160

= Rs 9240

∴ Lalitabai made a profit of Rs 9240 in this transaction.

## PRACTICE SET 33 [PAGES 70 - 71]

**Practice Set 33 | Q 1 | Page 70**

Maganlal bought trousers for Rs 400 and a shirt for Rs 200 and sold them for Rs 448 and Rs 250 respectively. Which of these transactions was more profitable?

*SOLUTION*

Cost price of trousers = Rs 400

Selling price of trousers = Rs 448

Since selling price of trousers is more than cost price of trousers, so there is a profit.

Profit = Selling price − Cost price

= 448 − 400

= Rs 48

Cost price of a shirt = Rs 200

Selling price of a shirt = Rs 250

Since selling price of a shirt is more than cost price of a shirt, so there is a profit.

Profit = Selling price − Cost price

= 250 − 200

= Rs 50

Let x % be the profit on selling trousers and y % be the profit on selling a shirt. Then,

$$\frac{x}{100} = \frac{\text{Profit}}{\text{cost price}} = \frac{48}{400} \text{ and}$$

$$\frac{y}{100} = \frac{\text{Profit}}{\text{cost price}} = \frac{50}{200}$$

$$\Rightarrow \frac{x}{100} \times 100 = \frac{48}{400} \times 100 \text{ and}$$

$$\frac{y}{100} \times 100 = \frac{50}{200} \times 100$$

$\Rightarrow x = 12$ and $y = 25$

So, Maganlal made a profit of 12% on trousers and 25% on a shirt.

Hence, transaction with the shirt was more profitable.

**Practice Set 33 | Q 2 | Page 70**

Ramrao bought a cupboard for Rs 4500 and sold it for Rs 4950. Shamrao bought a sewing machine for Rs 3500 and sold it for Rs 3920. Whose transaction was more profitable?

*SOLUTION*

Cost price of a cupboard = Rs 4500

Selling price of a cupboard = Rs 4950

Since selling price is more than cost price, so there is a profit.

Profit = Selling Price − Cost Price

= 4950 − 4500

= Rs 450

So, Ramrao made a profit of Rs 450 in this transaction.

Cost price of a sewing machine = Rs 3500

Selling price of a sewing machine = Rs 3920

Since selling price is more than cost price, so there is a profit.

Profit = Selling Price − Cost Price

= 3920 − 3500

= Rs 420

So, Shamrao made a profit of Rs 420 in this transaction.

Let x % be the Ramrao's profit and y % be the Shamrao's profit. Then,

$$\frac{x}{100} = \frac{\text{Profit}}{\text{cost price}} = \frac{450}{4500} \text{ and}$$

$$\frac{y}{100} = \frac{\text{Profit}}{\text{cost price}} = \frac{420}{3500}$$

$$\Rightarrow \frac{x}{100} \times 100 = \frac{450}{4500} \times 100 \text{ and}$$

$$\frac{y}{100} \times 100 = \frac{420}{3500} \times 100$$

$\Rightarrow x = 10$ and $y = 12$

So, Ramrao made a profit of 10% on a cupboard and Shamrao made a profit of 12% on a sewing machine.

∴ Shamrao's transaction was more profitable.

**Practice Set 33 | Q 3 | Page 71**

Hanif bought one box of 50 apples for Rs 400. He sold all the apples at the rate of Rs 10 each. Was there a profit or a loss? What was its percentage?

*SOLUTION*

Cost price of 50 apples = Rs 400

Selling price of 1 apple = Rs 10

∴ Selling price of 50 apples = 50 × 10 = Rs 500

Since selling price is more than cost price, so there is a profit.

Profit = Selling Price − Cost Price

= 500 − 400

= Rs 100

Let x % be the Hanif's profit. Then,

$$\frac{x}{100} = \frac{\text{Profit}}{\text{cost price}} = \frac{100}{400}$$

$$\Rightarrow \frac{x}{100} \times 100 = \frac{100}{400} \times 100$$

$\Rightarrow x = 25$

$\therefore$ Hanif made 25% profit in this transaction.

## PRACTICE SET 34 [PAGE 72]

### Practice Set 34 | Q 1 | Page 72

**Using the figures given below, frame problems based on profit percent or loss percent.**

Cost price Rs1600, selling price Rs 2800

*SOLUTION*

**Problem:** A man bought an article for Rs 1600 and sold it for Rs 2800. Find his profit percent.

Cost price of an article = Rs 1600

Selling price of an article = Rs 2800

Since selling price is more than cost price, so there is a profit.

Profit = Selling Price − Cost Price

= 2800 − 1600

= Rs 1200

Let x % be the profit made by the man in this transaction. Then,

$$\frac{x}{100} = \frac{\text{profit}}{\text{cost price}} = \frac{1200}{1600}$$

$$\Rightarrow \frac{x}{100} \times 100 = \frac{1200}{1600} \times 100$$

$\Rightarrow x = 75$

$\therefore$ The man made a profit of 75% in this transaction.

### Practice Set 34 | Q 2 | Page 72

**Using the figures given below, frame problems based on profit percent or loss percent.**

Cost price Rs 2000, selling price Rs 1900

*SOLUTION*

**Problem:** Avinash bought a mobile phone for Rs 2000 and sold the same for Rs 1900. Find his loss percent.

Cost price of mobile phone = Rs 2000

Selling price of mobile phone = Rs 1900

Since selling price is less than cost price, so there is a loss.

Loss = Cost Price − Selling price

= 2000 − 1900

= Rs 100

Let x % be the loss suffered by Avinash. Then,

$$\frac{x}{100} = \frac{\text{loss}}{\text{cost price}} = \frac{100}{2000}$$

$$\Rightarrow \frac{x}{100} \times 100 = \frac{100}{2000} \times 100$$

$$\Rightarrow x = 5$$

∴ Avinash suffered a loss of 5% in this transaction.

**Practice Set 34 | Q 3 | Page 72**

**Using the figures given below, frame problems based on profit percent or loss percent.**

Cost price of 8 articles is Rs 1200 each, selling price Rs 1400 each.

*SOLUTION*

**Problem:** Madanlal bought 8 almirahs each at Rs 1200 and sold them all at Rs 1400 each. What was the percentage of his profit or loss?

Cost price of 1 almirah = Rs 1200

∴ Cost price of 8 almirahs = 8 × 1200 = Rs 9600

Selling price of 1 almirah = Rs 1400

∴ Selling price of 8 almirahs = 8 × 1400 = Rs 11200

Since selling price is more than cost price, then there is a profit.

Profit = Selling Price − Cost Price

= 11200 − 9600

= Rs 1600

Let x % be the Madanlal's profit in this transaction. Then,

$$\frac{x}{100} = \frac{\text{Profit}}{\text{cost price}} = \frac{1600}{9600}$$

$$\Rightarrow \frac{x}{100} \times 100 = \frac{1600}{9600} \times 100$$

$$\Rightarrow x = \frac{50}{3} = 16\frac{2}{3}$$

$\therefore$ Madanlal made a profit of $16\frac{2}{3}\%$ in this transaction.

**Practice Set 34 | Q 4 | Page 72**

**Using the figures given below, frame problems based on profit percent or loss percent.**

Cost price of 50 Kg grain Rs 2000, selling price Rs 43 per kg.

*SOLUTION*

**Problem:** Amit bought 50 kg of rice for Rs 2000. Later he sold them all at the rate of Rs 43 per kg. Did he make a profit or a loss? What was its percentage?

Cost price of 50 kg of rice = Rs 2000

Selling price of 1 kg of rice = Rs 43

∴ Selling price of 50 kg of rice = 50 × 43 = Rs 2150

Since selling price is more than cots price, so there is a profit.

Profit = Selling Price − Cost Price

= 2150 − 2000

= Rs 150

So, Amit made a profit of Rs 150 in this transaction.

Let x % be the Amit's profit, then,

$$\frac{x}{100} = \frac{\text{Profit}}{\text{cost price}} = \frac{150}{2000}$$

$$\Rightarrow \frac{x}{100} \times 100 = \frac{150}{2000} \times 100$$

$$\Rightarrow x = \frac{15}{2} = 7\frac{1}{2}$$

$\therefore$ Amit made a profit of $7\frac{1}{2}\%$ in this transaction.

**Practice Set 34 | Q 5 | Page 72**

**Using the figures given below, frame problems based on profit percent or loss percent.**

Cost price Rs 8600, transport charges Rs 250, porterage Rs 150, selling price Rs 10000

*SOLUTION*

**Problem:** Vinay bought a machine from a factory for Rs 8600. He spent Rs 250 on transport and Rs 150 on porterage. If he sold it to a customer for Rs 10000, what was his profit percent or loss percent?

Cost price of machine = Rs 8600

Money spent on transport = Rs 250

Money spent on porterage = Rs 150

Total expenses = cost of machine + transport charges + porterage charges

= 8600 + 250 + 150

= Rs 9000

That is, total cost price = Rs 9000

Selling price of the machine = Rs 10000

Since selling price is more than total cost price, so there is a profit.

Profit = Selling price − total cost price

= 10000 − 9000

= Rs 1000

Let x % be the Vinay's profit in this transaction. Then,

$$\frac{x}{100} = \frac{\text{Profit}}{\text{total cost price}} = \frac{1000}{9000}$$

$$\Rightarrow \frac{x}{100} \times 100 = \frac{1000}{9000} \times 100$$

$$\Rightarrow x = \frac{100}{9} = 11\frac{1}{9}$$

$\therefore$ Vinay made a profit of $11\frac{1}{9}\%$ in this transaction.

**Practice Set 34 | Q 6 | Page 72**

**Using the figures given below, frame problems based on profit percent or loss percent.**

Seeds worth Rs 20500, labour Rs 9700, chemicals and fertilizers Rs 5600, selling price Rs 28640.

*SOLUTION*

**Problem:** A farmer purchased some seeds worth Rs 20500 for his field. He paid Rs 9700 on labour besides Rs 5600 on chemicals and fertilizers. If the selling price of his produce worth Rs 28640, what was the percentage of his profit or loss?

Cost price of seeds = Rs 20500

Money spent on labour = Rs 9700

Money spent on chemicals and fertilizers = Rs 5600

Total expenses = cost of seeds + labour charges + money

spent on chemicals and fertilizers

= 20500 + 9700 + 5600

= Rs 35800

That is, total cost price is Rs 35800.

Selling price of the produce = Rs 28640

Since selling price is less than the total cost price, so there is a loss.

Loss = Total cost price − selling price

= 35800 − 28640

= Rs 7160

Let x % be the farmer's loss. Then,

$$\frac{x}{100} = \frac{\text{loss}}{\text{Total cost price}}$$

$$\Rightarrow \frac{x}{100} = \frac{7160}{35800}$$

$$\Rightarrow \frac{x}{100} \times 100 = \frac{7160}{35800} \times 100$$

$\Rightarrow x = 20$

$\therefore$ The farmer suffered a loss of 20% in this transaction.