



# Profit and Loss

## Exercise-1

1. (a)  $C.P. > S.P. \therefore \text{Loss} = C.P. - S.P. = ₹ 190 - ₹ 183 = ₹ 7$   
(b)  $S.P. > C.P. \therefore \text{Profit} = S.P. - C.P. = ₹ 99 - ₹ 92 = ₹ 7$   
(c)  $C.P. > S.P. \therefore \text{Loss} = C.P. - S.P. = ₹ 23 - ₹ 21 = ₹ 2$   
(d)  $S.P. > C.P. \therefore \text{Profit} = S.P. - C.P. = ₹ 84.50 - ₹ 78 = ₹ 6.50$   
(e)  $S.P. > C.P. \therefore \text{Profit} = S.P. - C.P. = ₹ 112 - ₹ 103 = ₹ 9$
2. (a)  $C.P. = ₹ 985, S.P. = ₹ 1010$   
 $\therefore S.P. > C.P. \therefore \text{Profit} = S.P. - C.P. = ₹ 1010 - ₹ 985 = ₹ 25$   
(b)  $C.P. = ₹ 828, S.P. = ₹ 778$   
 $\therefore C.P. > S.P. \therefore \text{Loss} = C.P. - S.P. = ₹ 828 - ₹ 778 = ₹ 50$
3. Here,  $C.P. = ₹ 2725, S.P. = ₹ 2635$   
 $\therefore C.P. > S.P.$  So, Aatif will get a loss.  
 $\text{Loss} = C.P. - S.P. = ₹ 2725 - ₹ 2635 = ₹ 90$   
So, Aatif will get a loss of ₹ 90.
4. Here,  $C.P. = ₹ 2290, S.P. = ₹ 1600$   
Since,  $C.P. > S.P.$   
So, Mahesh makes a loss.  
 $\text{Loss} = C.P. - S.P. = ₹ 2290 - ₹ 1600 = ₹ 690$
5. Here,  $C.P. = ₹ 538$ , cost of repairing = ₹ 90 (overhead expenses)  
 $\text{Total C.P.} = C.P. + \text{overhead expenses} = ₹ 538 + ₹ 90 = ₹ 628$   
 $S.P. = ₹ 640$   
Here,  $S.P. > C.P.$ , so, she will get a profit.  
 $\text{Profit} = S.P. - C.P. = ₹ 640 - ₹ 628 = ₹ 12$
6. Here,  $C.P.$  of the table = ₹ 1725,  $S.P. = ₹ 1860$   
 $\therefore S.P. > C.P.$  So, Manish will get a profit.  
 $\text{Profit} = S.P. - C.P. = ₹ 1860 - ₹ 1725 = ₹ 135$   
So, Manish will get a profit of ₹ 135.

7. Here, S.P. of the washing machine = ₹ 12,245

C.P. of the washing machine = ₹ 12,000

∴ S.P. > C.P., so, the shopkeeper will get a profit.

$$\text{Profit} = \text{S.P.} - \text{C.P.} = ₹ 12,245 - ₹ 12,000 = ₹ 245$$

## Exercise-2

1. (a) C.P. = ₹ 985 , Profit = ₹ 25

$$\therefore \text{S.P.} = \text{C.P.} + \text{Profit} = ₹ 985 + ₹ 25 = ₹ 1010$$

(b) C.P. = ₹ 828 , Loss = ₹ 50

$$\therefore \text{S.P.} = \text{C.P.} - \text{loss} = ₹ 828 - ₹ 50 = ₹ 778$$

(c) Profit = ₹ 57 , S.P. = ₹ 1978

$$\therefore \text{C.P.} = \text{S.P.} - \text{Profit} = ₹ 1978 - ₹ 57 = ₹ 1921$$

(d) C.P. = ₹ 2175 , S.P. = ₹ 2725

$$\therefore \text{Profit} = \text{S.P.} - \text{C.P.} = ₹ 2725 - ₹ 2175 = ₹ 550$$

(e) C.P. = ₹ 4500 , loss = ₹ 45

$$\therefore \text{S.P.} = \text{C.P.} - \text{loss} = ₹ 4500 - ₹ 45 = ₹ 4455$$

2. Here, C.P. of the cycle = ₹ 1725, loss = ₹ 358

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

$$= ₹ 1725 - ₹ 358 = ₹ 1367$$

Hence, the selling price of the cycle is ₹ 1367.

3. S.P. of the potatoes = ₹ 324, profit = ₹ 29

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

$$= ₹ 324 - ₹ 29 = ₹ 295$$

So, the vegetable seller bought the potatoes for ₹ 295.

4. C.P. of binoculars = ₹ 198, Profit = ₹ 35

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

$$= ₹ 198 + ₹ 35 = ₹ 233$$

So, the selling price of the binoculars is ₹ 233.

5. Loss = ₹ 2450, S.P. = ₹ 12,245

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

$$= ₹ 12245 + ₹ 2450 = ₹ 14695$$

So, the cost price of the washing machine is ₹ 14695.



6. C.P. of the motorcycle = ₹ 32,475, Overhead expenses = ₹ 7,200  
 Total C.P. = ₹ 32,475 + ₹ 7,200 = ₹ 39,675, Profit = ₹ 4,250  
 $\therefore$  S.P. of motorcycle = ₹ 39,675 + ₹ 4,250 = ₹ 43,925  
 So, the selling price of the motorcycle is ₹ 43,925.

### Exercise-3

- C.P. = ₹ 700, S.P. = ₹ 784,  
 Profit = S.P. - C.P. = ₹ 784 - ₹ 700 = ₹ 84  
 Profit % =  $\frac{\text{Profit} \times 100}{\text{C.P.}} \% = \frac{84 \times 100}{700} \% = 12\%$
- C.P. of the shirt = ₹ 650, Profit = ₹ 130  
 S.P. = C.P. + profit = ₹ 650 + ₹ 130 = ₹ 780  
 Profit % =  $\frac{\text{Profit} \times 100}{\text{C.P.}} \% = \frac{130 \times 100}{650} \% = 20\%$
- C.P. of DVD = ₹ 300, S.P. = ₹ 270  
 Loss = C.P. - S.P. = ₹ 300 - ₹ 270 = ₹ 30  
 Loss % =  $\frac{\text{Loss} \times 100}{\text{C.P.}} \% = \frac{30 \times 100}{300} \% = 10\%$
- C.P. of pillow = ₹ 160, Loss % = 18%  
 Loss =  $\frac{\text{Loss \%} \times \text{C.P.}}{100} = ₹ \frac{18 \times 160}{100} = ₹ \frac{288}{10} = ₹ 28.80$   
 $\therefore$  S.P. = C.P. - Loss = ₹ 160 - ₹ 28.80 = ₹ 131.20
- C.P. of the packet of crayons = ₹ 320  
 Selling price of 1 crayon = ₹ 3.00  
 Number of crayons = 120  
 S.P. of the packet of crayons = ₹ 3.00  $\times$  120 = ₹ 360  
 Since S.P. > C.P., he will get profit.  
 Profit = S.P. - C.P. = ₹ 360 - ₹ 320 = ₹ 40  
 Profit % =  $\frac{\text{Profit} \times 100}{\text{C.P.}} \% = \frac{40 \times 100}{320} \% = \frac{100}{8} \% = 12.5\%$

## Review Exercise

1. C.P. of 40 m rope =  $40 \text{ m} \times ₹ 30 \text{ per metre}$   
= ₹ 1200

$$\text{S.P. of 40 m rope} = 40 \times ₹ 35 = ₹ 1400$$

Here, S.P. > C.P., so, Ramesh will make a profit.

$$\text{Profit} = \text{S.P.} - \text{C.P.} = ₹ 1400 - ₹ 1200 = ₹ 200$$

Therefore, the gain of Ramesh is ₹ 200.

2. C.P. of the motorbike = ₹ 35,400

$$\text{Overhead expenses} = ₹ 1200$$

$$\text{Total C.P.} = ₹ 35,400 + ₹ 1,200 = ₹ 36,600$$

$$\text{Loss} = ₹ 6588$$

$$\therefore \text{S.P.} = \text{C.P.} - \text{Loss} = ₹ 36,600 - ₹ 6,588 \\ = ₹ 30,012$$

Therefore, the selling price of the motorbike is ₹ 30,012.

3. C.P. of the scooter = ₹ 8,000

$$\text{Overhead expenses} = \text{Cost of repairing} + \text{cost of repainting} \\ = ₹ 700 + ₹ 350 = ₹ 1050$$

$$\text{Total C.P.} = ₹ 8,000 + ₹ 1,050 = ₹ 9,050$$

$$\text{S.P. of the scooter} = ₹ 9,500$$

Here, S.P. > C.P., so, he will make profit.

$$\text{Gain} = \text{S.P.} - \text{C.P.} = ₹ 9,500 - ₹ 9,050 = ₹ 450$$

Hence, the man will make a profit of ₹ 450.

4. Selling price of 20 pens =  $20 \times ₹ 5 = ₹ 100$

$$\text{Cost price of 20 pens} = ₹ 85$$

Here, S.P. > C.P., so, Vicky will make a profit.

$$\therefore \text{Profit} = ₹ 100 - ₹ 85 = ₹ 15$$

Hence, Vicky will make a profit of ₹ 15.

5. C.P. of mobile phone = ₹ 7,200

$$\text{S.P. of mobile phone} = ₹ 4,725$$

$$\text{Loss} = \text{C.P.} - \text{S.P.} = ₹ 7,200 - ₹ 4,725 = ₹ 2,475$$

So, Neeta got a loss of ₹ 2,475.

6. C.P. of microwave oven = ₹ 12,500

$$\text{Loss \%} = 36\%$$

$$\therefore \text{Loss} = \frac{\text{Loss \%} \times \text{C.P.}}{100} = ₹ \frac{36 \times 12500}{100} = ₹ 4,500$$



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

$$= ₹ 12,500 - ₹ 4,500 = ₹ 8,000$$

So, the selling price of the oven is ₹ 8,000.

7. C.P. of the computer = ₹ 25,000

S.P. of the computer = ₹ 21,500

$$\text{Loss} = \text{C.P.} - \text{S.P.} = ₹ 25,000 - ₹ 21,500$$

$$= ₹ 3,500$$

$$\text{Loss \%} = \frac{\text{Loss} \times 100}{\text{C.P.}} \% = \frac{3500 \times 100}{25000} \% = \frac{350}{25} \% = 14\%$$

8. C.P. of the computer = ₹ 36,000

Profit % = 18%

$$\text{Profit} = \frac{\text{Profit\%} \times \text{C.P.}}{100} = ₹ \frac{18 \times 36000}{100} = ₹ 6480$$

$$\text{S.P.} = \text{C.P.} + \text{Profit} = ₹ 36,000 + ₹ 6,480 = ₹ 42,480$$

## HOTS

Cost price of 160 apples =  $160 \times ₹ 10 = ₹ 1600$

Selling price of 120 apples at ₹ 12 per apple =  $120 \times ₹ 12 = ₹ 1440$

Selling price of 40 apples at ₹ 8 per apple =  $40 \times ₹ 8 = ₹ 320$

Total selling price = ₹ 1440 + ₹ 320 = ₹ 1760

Since, S.P. > C.P.

$\therefore$  The fruitseller will make a profit.

Gain = S.P. - C.P. = ₹ 1760 - ₹ 1600 = ₹ 160

Hence, the fruitseller will make a gain of ₹ 160.