Profit and Loss
(English Medium)

Exercise

Solution 1:

Cost Price (Rs.)	Additional Expense (Rs.)	Profit (%)	Loss (%)	Sale price (Rs.)
1800	_		7	1674
630	70	10	_	770
1050	150	4	_	1248

1. $\text{Loss} = \text{Loss}\% \times \text{C.P.} = \frac{7}{100} \times 1800 = \text{Rs. } 126$

   $\therefore \text{S.P.} = \text{C.P.} - \text{Loss} = \text{Rs.}(1800 - 126) = \text{Rs. } 1674$

2. $\text{N.P.} = \text{C.P.} + \text{A.E.} = \text{Rs.}(630 + 70) = \text{Rs. } 700$

   $\text{Profit} = \text{Profit}\% \times \text{N.P.} = \frac{10}{100} \times 700 = \text{Rs. } 70$

   $\therefore \text{S.P.} = \text{N.P.} + \text{Profit} = \text{Rs.}(700 + 70) = \text{Rs. } 770$

3. $\text{N.P.} = \text{C.P.} + \text{A.E.} = \text{Rs.}(1050 + 150) = \text{Rs. } 1200$

   $\text{Profit} = \text{Profit}\% \times \text{N.P.} = \frac{4}{100} \times 1200 = \text{Rs. } 48$

   $\therefore \text{S.P.} = \text{N.P.} + \text{Profit} = \text{Rs.}(1200 + 48) = \text{Rs. } 1248$

Solution 2:

Printed price of the cameras =Rs. 750

Rate of rebate = 10%

Amount of rebate = Rate of rebate × Printed price

$= 10\% \times \text{Rs. } 750$

$= \frac{10}{100} \times 750$

$= \text{Rs. } 75$

Amount to be paid = Printed price − Rebate

$= \text{Rs.}(750 - 75)$

$= \text{Rs. } 675$

Hence, a customer has to pay Rs. 675 for the camera.

Solution 3:

Printed price of the sarees =Rs. 1600
Rate of rebate = 25%
Amount of rebate = Rate of rebate × printed price
∴ Amount of rebate = 25% ×Rs. 1600

$$= \frac{25}{100} \times \text{Rs.}1600$$

=Rs. 400
N.P. of each saree = Printed price – Rebate
=Rs.(1600 – 400)
∴ N.P. of each saree =Rs. 1200
S.P. of each saree =Rs. 1440
Now, S.P. of each saree > N.P. of each saree
Hence, the saree trader makes profit.
Profit = S.P. – N.P.
= Rs. (1440 – 1200)
∴ Profit = Rs. 240
∴ The trader makes a profit of Rs. 240 per saree.
Amount of rebate for the customer =Printed price – Amount paid
=Rs. (1600 – 1440) = Rs. 160

$$\text{Percentage of rebate} = \frac{\text{Amount of rebate}}{\text{Printed price}} \times 100$$

$$= \frac{160}{1600} \times 100$$

$$= 10\%$$

Hence, the customer earns a rebate of 10%.

Solution 4:

Printed price of the television = Rs. 14750
Rate of rebate = 20%
Amount of rebate = Rate of rebate × Printed price
= 20% × Rs. 14750

$$= \frac{20}{100} \times 14750$$

= Rs. 2950
Amount to be paid = Printed price – Rebate
= Rs.(14750 – 2950)
= Rs. 11800
Hence, the customer gets the television at Rs. 11,800.

Solution 5:

Printed price of each T-shirt = Rs. 300

∴ Printed price of 5 T-shirts = Rs. (300 × 5)

= Rs. 1500

Rate of rebate = 10%

Amount of rebate = Rate of rebate × Printed price

= 10% × Rs. 1500

$= \frac{10}{100} \times 1500$

= Rs. 150

Amount to be paid = Printed price − Rebate

= Rs. (1500 − 150)

= Rs. 1350

Hence, N.P. for Sohan = Rs. 1350

S.P. for Sohan = Rs. 1485

Here, S.P. > N.P.

Hence, there is a profit.

Profit = S.P. − N.P.

= Rs. (1485 − 1350)

∴ Profit = Rs. 135

∴ Sohan makes a profit of Rs. 135.

Practice – 1

Solution 1:

Sr. no	Cost Price (in Rs.)	Addi. Exp. (in Rs.)	Profit (in %)	Loss (in %)	Sale price (in Rs.)
1.	60	_	5	_	63
2.	40	_	10	_	44
3.	1000	_	12	_	1120
4.	240	_	_	15	204
5.	1500	_	_	5	1425
6.	24	_	_	12.5	21
7.	1650	150	_	5	1710
8.	750	50	_	10.5	716
9.	3800	200	15.5	_	4620

1. $\text{Profit} = \text{Profit\%} \times \text{C.P.} = \frac{5}{100} \times 60 = \text{Rs. } 3$

   $\therefore \text{S.P.} = \text{C.P.} + \text{Profit} = \text{Rs. } (60+3) = \text{Rs. } 63$

2. $\text{Profit} = \text{Profit\%} \times \text{C.P.} = \frac{10}{100} \times 40 = \text{Rs. } 4$

   $\therefore \text{S.P.} = \text{C.P.} + \text{Profit} = \text{Rs. } (40+4) = \text{Rs. } 44$

3. $\text{Profit} = \text{Profit\%} \times \text{C.P.} = \frac{12}{100} \times 1000 = \text{Rs. } 120$

   $\therefore \text{S.P.} = \text{C.P.} + \text{Profit} = \text{Rs. } (1000+120) = \text{Rs. } 1120$

4. $\text{Loss} = \text{Loss\%} \times \text{C.P.} = \frac{15}{100} \times 240 = \text{Rs. } 36$

   $\therefore \text{S.P.} = \text{C.P.} - \text{Loss} = \text{Rs. } (240-36) = \text{Rs. } 204$

5. $\text{Loss} = \text{Loss\%} \times \text{C.P.} = \frac{5}{100} \times 1500 = \text{Rs. } 75$

   $\therefore \text{S.P.} = \text{C.P.} - \text{Loss} = \text{Rs. } (1500-75) = \text{Rs. } 1425$

6. $\text{Loss} = \text{Loss\%} \times \text{C.P.} = \frac{12.5}{100} \times 24 = \text{Rs. } 3$

   $\therefore \text{S.P.} = \text{C.P.} - \text{Loss} = \text{Rs. } (24-3) = \text{Rs. } 21$

7. $\text{N.P.} = \text{C.P.} + \text{A.E.} = \text{Rs. } (1650+150) = \text{Rs. } 1800$

   $\text{Loss} = \text{Loss\%} \times \text{N.P.} = \frac{5}{100} \times 1800 = \text{Rs. } 90$

   $\therefore \text{S.P.} = \text{N.P.} - \text{Loss} = \text{Rs. } (1800-90) = \text{Rs. } 1710$

8. $\text{N.P.} = \text{C.P.} + \text{A.E.} = \text{Rs. } (750+50) = \text{Rs. } 800$

   $\text{Loss} = \text{Loss\%} \times \text{N.P.} = \frac{10.5}{100} \times 800 = \text{Rs. } 84$

   $\therefore \text{S.P.} = \text{N.P.} - \text{Loss} = \text{Rs. } (800-84) = \text{Rs. } 716$

9. $\text{N.P.} = \text{C.P.} + \text{A.E.} = \text{Rs. } (3800+200) = \text{Rs. } 4000$

   $\text{Profit} = \text{Profit\%} \times \text{N.P.} = \frac{15.5}{100} \times 4000 = \text{Rs. } 620$

   $\therefore \text{S.P.} = \text{N.P.} + \text{Profit} = \text{Rs. } (4000+620) = \text{Rs. } 4620$

Solution 2:

C.P. of the table = Rs. 450
Additional expenses = Rs. 50
N.P. = C.P. + Additional Expenses = Rs.(450 + 50) = Rs. 500
Now, $\text{Profit} = \text{Profit\%} \times \text{N.P.}$

$= 12\% \times 500$

$= \frac{12}{100} \times 500$

$= \text{Rs. } 60$

Now, $\text{S.P.} = \text{N.P.} + \text{Profit}$

$= \text{Rs.}(500+60)$

$= \text{Rs. } 560$

Thus, the sale price of the table should be Rs.560.

Solution 3:

C.P. of the T.V. = Rs. 16,000
Additional expenses = Rs. 200
N.P. = C.P. + Additional Expenses = Rs. (16,000 + 200) = Rs. 16,200
Now, Profit = Profit% x N.P.
$= 12\% \times 16,200$
$= \frac{12}{100} \times 16,200$
= Rs. 1,944
Now, S.P. = N.P. + Profit
= Rs. (16,200 + 1,944)
= Rs. 18,144
Thus, the T.V. should be sold at Rs. 18,144.

Solution 4:

C.P. of the sofa set = Rs. 14,500
Additional expenses = Rs. 500
N.P. = C.P. + Additional Expenses = Rs. (14,500 + 500) = Rs. 15,000
Now, Loss = Loss% x N.P.
$= 8.5\% \times 15,000$
$= \frac{8.5}{100} \times 15,000$
= Rs. 1,275
Now, S.P. = N.P. – Loss
= Rs. (15,000 – 1,275)
= Rs. 13,725
Thus, Deepali sold the sofa set for Rs. 13,725.

Solution 5:

C.P. of the house = Rs. 9,50,000
Additional expenses = Rs. 50,000
N.P. = C.P. + Additional Expenses = Rs. (9,50,000 + 50,000) = Rs. 10,00,000
Now, Profit = Profit% x N.P.
$= 14.5\% \times 10,00,000$
$= \frac{14.5}{100} \times 10,00,000$
= Rs. 1,45,000
Now, S.P. = N.P. + Profit
= Rs. (10,00,000 + 1,45,000)
= Rs. 11,45,000
Thus, Akhileshbhai should sell the house for Rs. 11,45,000.

Solution 6:

C.P. of the Activa = Rs. 55,000

Profit = 14%

Profit = Profit% x C.P.

$= 14\% \times 55,000$

$= \frac{14}{100} \times 55,000$

= Rs. 7,700

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

= Rs. (55,000 + 7,700)

= Rs. 62,700

Thus, Taniza should have got Rs. 62,700.

Practice – 2

Solution 1:

C.P. of the scooter = Rs. 15,000

Brokerage to be paid by the buyer = 2% of Rs. 15,000

$= \frac{2}{100} \times 15,000$

= Rs. 300

Amount to be paid by the buyer = C.P. + Brokerage

= Rs. (15,000 + 300)

= Rs. 15,300

Thus, the scooter is bought for Rs. 15,300.

Solution 2:

S.P. of the car = Rs. 80,000

Brokerage received from the seller = 2.5% of Rs. 80,000

$= \frac{2.5}{100} \times 80,000$

= Rs. 2,000

Brokerage received from the buyer = 2.5% of Rs. 80,000

$= \frac{2.5}{100} \times 80,000$

= Rs. 2,000

∴ Total amount of brokerage received by the broker

= Rs. 2,000 + Rs. 2,000

= Rs. 4,000

Thus, the total amount of brokerage received by the broker is Rs. 4,000.

Solution 3:

S.P. of the shop = Rs. 7,50,000
Rate of brokerage = 1%
Thus, amount of brokerage = Rate of brokerage x S.P.

$$= 1\% \times \text{Rs. } 7,50,000$$
$$= \frac{1}{100} \times 7,50,000$$
$$= \text{Rs. } 7,500$$

Amount received by Vinodbhai = S.P. – Brokerage

$$= \text{Rs. } (7,50,000 - 7500)$$
$$= \text{Rs. } 7,42,500$$

Thus, Vinodbhai got Rs. 7,42,500 on selling the shop.

Solution 4:

S.P. of the plot = Rs. 8,80,000
Rate of brokerage = 1.5%
Thus, amount of brokerage = Rate of brokerage x S.P.

$$= 1.5\% \times \text{Rs. } 8,80,000$$
$$= \frac{1.5}{100} \times 8,80,000$$
$$= \text{Rs. } 13,200$$

Amount received by Dharmendrabhai = S.P. – Brokerage

$$= \text{Rs. } (8,80,000 - 13,200)$$
$$= \text{Rs. } 8,66,800$$

Hence, amount received by Dharmendrabhai on selling the plot is Rs. 8,66,800.

Solution 5:

Total amount of brokerage
= Brokerage charged from the seller + Brokerage charged from the buyer
= 1% of Rs. 2,50,000 + 2% of Rs. 2,50,000
= 3% of Rs. 2,50,000
= 3% x 2,50,000

$$= \frac{3}{100} \times 2,50,000$$
$$= \text{Rs. } 7500$$

∴ Total amount of brokerage received by the broker is Rs. 7,500.

Practice – 3

Solution 1:

No.	Product	MRP (Rs.)	% Rebate	Amount of the rebate (Rs.)	Amount to be paid (Rs.)
(1)	Towel	125	15	18.75	106.25
(2)	Curtain	750	10	75	675
(3)	1 kg Biscuits	40	5	2	38

The MRP (Rs.) and the Rebate (%) are given in the banner of Sale.
Amount of rebate = Rate of Rebate × Price

Thus, we have

(1) Amount of rebate on Towel = 15% x 125

$$= \frac{15}{100} \times 125$$

$$= \text{Rs. } 18.75$$

Amount to be paid = Printed Price − Rebate

$$= \text{Rs. } (125 - 18.75)$$

$$= \text{Rs. } 106.25$$

(2) Amount of rebate on Curtain = 10% x 750

$$= \frac{10}{100} \times 750$$

$$= \text{Rs. } 75$$

Amount to be paid = Printed Price − Rebate

$$= \text{Rs. } (750 - 75)$$

$$= \text{Rs. } 675$$

(3) Amount of rebate on 1kg biscuits = 5% x 40

$$= \frac{5}{100} \times 40$$

$$= \text{Rs. } 2$$

Amount to be paid = Printed Price − Rebate

$$= \text{Rs. } (40 - 2)$$

$$= \text{Rs. } 38$$

Solution 2:

No.	Book	MRP (Rs.)	Rebate	Amount to be paid (Rs.)
(1)	My Experiments with Truth	20	10%	18
(2)	Srimad Bhagvad Geeta	65	20%	52
(3)	Bible	60	20%	48
(4)	Day Dreams	80	5%	76
(5)	Panchtanra	120	15%	102

(1) Amount of rebate = Rate of Rebate × Printed Price

$$= 10\% \times 20$$

$$= \frac{10}{100} \times 20$$

$$= \text{Rs. } 2$$

Amount to be paid = Printed Price − Rebate

$$= \text{Rs. } (20 - 2)$$

$$= \text{Rs. } 18$$

(2) Amount of rebate = Rate of Rebate × PrintedPrice

$$= 20\% \times 65$$

$$= \frac{20}{100} \times 65$$

$$= \text{Rs. } 13$$

Amount to be paid = Printed Price − Rebate

$$= \text{Rs. } (65 - 13)$$

$$= \text{Rs. } 52$$

(3) Amount of rebate = Rate of Rebate × Printed Price

$= 20\% \times 60$

$= \frac{20}{100} \times 60$

$= Rs.\ 12$

Amount to be paid = Printed Price − Rebate

$= Rs.\ (60 - 12)$

$= Rs.\ 48$

(4) Amount of rebate = Rate of Rebate × Printed Price

$= 5\% \times 80$

$= \frac{5}{100} \times 80$

$= Rs.\ 4$

Amount to be paid = Printed Price − Rebate

$= Rs.\ (80 - 4)$

$= Rs.\ 76$

(5) Amount of rebate = Rate of Rebate × Printed Price

$= 15\% \times 120$

$= \frac{15}{100} \times 120$

$= Rs.\ 18$

Amount to be paid = Printed price − Rebate

$= Rs.\ (120 - 18)$

$= Rs.\ 102$

Solution 3:

It is a self-study project wherein you need to search advertisements related to rebate in the newspaper.

Practice – 4

Solution 1:

Printed price of the T-shirt = Rs. 450 per piece

S.P. of the T-shirt = Rs. 360 per piece

Rate of rebate on purchase = 10% on the printed price

Amount of rebate on purchase

= Rate of rebate × Printed price

= 10% × Rs. 450

$= \frac{10}{100} \times 450$

$= Rs.\ 45$

Net price (N.P.) of each T-shirt = Printed price – Rebate

= Rs. 450 – Rs. 45

= Rs. 405

The trader sells each T-shirt at Rs. 360.

Now, S.P. < N.P.

Hence, the trader suffers a loss.

Loss = N.P. – S.P.

= Rs. (405 – 360)

= Rs. 45

Hence, the trader incurs a loss of Rs. 45 per T-shirt.

Amount of rebate = Printed price – Price paid

= Rs. (450 – 360)

= Rs. 90

$$\%\ \text{rebate earned by the customer} = \frac{\text{Amount of Rebate}}{\text{Printed price}} \times 100$$

$$= \frac{90}{450} \times 100$$

$$= 20\%$$

$\therefore$ the customer earned a rebate of 20%.

Solution 2:

Printed price of the TV = Rs. 18,000

S.P. of the TV = Rs. 2700

Rate of rebate on purchase = 20% on printed price

Amount of rebate on purchase

= Rate of rebate × Printed price

= 20% × Rs. 18,000

$$= \frac{20}{100} \times 18,000$$

$$= \text{Rs. } 3,600$$

Net price (N.P.) of each TV = Printed price – Rebate

= Rs. 18,000 – Rs. 3,600

=Rs. 14,400

Selling price of each TV = Printed price – Rebate

= Rs. 18,000 – Rs. 2700

= Rs. 15,300

Now, S.P. > N.P.

Hence, the trader makes profit.

Profit = S.P. – N.P.

= Rs. 15,300 – Rs. 14,400

= Rs. 900

Hence, the trader makes a profit of Rs. 900 per T.V.

$$\%\ \text{rebate earned by the customer} = \frac{\text{Amount of Rebate}}{\text{Printed price}} \times 100$$

$$= \frac{2700}{18000} \times 100$$

$$= 15\%$$

$\therefore$ the customer earns 15% rebate.