Unit 5 · Profit and Loss

HARDER PRACTICE QUESTIONS · ANSWER KEY

Full marks 27

Give the marks for the points in the marking scheme; an answer in other words that says the same is right.

1 Work backwards

ANSWER A · 3

Let the cost price be Rs 100. Marked price: Rs 125. Discount: 12% of 125 = Rs 15. Selling price: Rs 110.
So the profit is 10% of the cost price.
10% of CP = Rs 300, so CP = **Rs 3,000**.
MP = 1.25×3000 = **Rs 3,750**, and SP = 3000 + 300 = **Rs 3,300**.

MARKING SCHEME

- ✓ The profit is 10% of the cost price.
- ✓ CP = Rs 3,000.
- ✓ MP = Rs 3,750 and SP = Rs 3,300.

2 No profit, no loss

ANSWER HA · 3

i. Take CP = Rs 100, so MP = Rs 125. For no profit and no loss, the discount must be Rs 25, and $\frac{25}{125} \times 100\% =$ **20%**.

ii. 25% of Rs 125 is Rs 31.25, so SP = Rs 93.75, and the loss is Rs 6.25 on Rs 100: **6.25%**. The 25% is taken from the bigger number, the marked price.

MARKING SCHEME

- ✓ The discount must be Rs 25 on a marked price of Rs 125.
- ✓ 20%.
- ✓ 6.25% loss.

3 The biggest discount

ANSWER HA · 3

i. 8000 + 15% of 8000 = **Rs 9,200**.

ii. Largest discount: 12000 − 9200 = Rs 2,800, which is $\frac{2800}{12000} \times 100\% = 23.3\ldots\%$. So **23%**. (At 24% the price would be Rs 9,120, too low.)

MARKING SCHEME

- ✓ Rs 9,200.
- ✓ 23.3…%.
- ✓ 23%, rounded down, not up.

4 Which offer?

ANSWER A · 4

i. Four sets are marked Rs 1,600 and cost Rs 1,200, so the discount is Rs 400: $\frac{400}{1600} \times 100\% =$ **25%**.

ii. Shop B: 80% of Rs 1,600 is Rs 1,280. **Shop A is cheaper by Rs 80.**

iii. Three sets: Shop A Rs 1,200, Shop B 80% of Rs 1,200 = Rs 960. **Shop B is cheaper**, by Rs 240.

MARKING SCHEME

- ✓ Rs 400 off Rs 1,600.
- ✓ 25%.
- ✓ Shop A, by Rs 80.
- ✓ Shop B, at Rs 960.

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5 Spot the error

ANSWER U · 3

The 10% is taken from the sale price, not the marked price, so the two percents can't be added.
Sale price: 80% of Rs 2,000 = Rs 1,600. Member's price: 90% of Rs 1,600 = **Rs 1,440**.
The discount is Rs 560, which is **28%**, not 30%.

MARKING SCHEME

- ✓ The mistake: the second discount is on the sale price.
- ✓ Rs 1,440.
- ✓ 28% in all.

6 Same price, opposite percents

ANSWER HA · 4

Profit phone: SP is 120% of CP, so CP = 2400 ÷ 1.2 = Rs 2,000.
Loss phone: SP is 80% of CP, so CP = 2400 ÷ 0.8 = Rs 3,000.
Total CP = Rs 5,000 and total SP = Rs 4,800, so he lost Rs 200.
No: he lost $\frac{200}{5000} \times 100\% = \mathbf{4\%}$. The two 20%s are of different cost prices.

MARKING SCHEME

- ✓ CP of the first is Rs 2,000.
- ✓ CP of the second is Rs 3,000.
- ✓ A loss of Rs 200 on Rs 5,000.
- ✓ 4% loss.

7 In a real setting

ANSWER A · 3

She paid 50 × 60 = Rs 3,000. She needs 120% of that, Rs 3,600.
She has 50 − 5 = 45 kg left, so the price is 3600 ÷ 45 = **Rs 80 a kg**.

MARKING SCHEME

- ✓ Rs 3,600 needed.
- ✓ 45 kg left to sell.
- ✓ Rs 80 a kg.

8 Think

ANSWER HA · 2

No. On Rs 1,000 the profit is Rs 200, so the cost price is Rs 800. Profit percent is a percent of the cost price: $\frac{200}{800} \times 100\% = \mathbf{25\%}$.

MARKING SCHEME

- ✓ Profit percent is on the cost price, Rs 800.
- ✓ 25%, not 20%.

9 Make your own

ANSWER HA · 2

For example, marked 20% above the cost and sold at a 10% discount. MP = Rs 600, discount = Rs 60, SP = Rs 540, and the profit is Rs 40, which is 8% of Rs 500. (35% and 20% work too.)

MARKING SCHEME

- ✓ A mark-up and a discount that work.
- ✓ The check with a cost price of Rs 500.

Marks by level	Knowledge	Understanding	Application	Higher ability	Total
Marks	0	3	10	14	**27**

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