

CAT Profit and Loss Questions

30 Practice Questions with Step-by-Step Solutions | Companion to the CAT Mock Guide

Quick Formula Sheet

Concept	Formula
Profit %	$[(SP - CP) \div CP] \times 100$
Loss %	$[(CP - SP) \div CP] \times 100$
SP from Profit %	$SP = CP \times (1 + P\%/100)$
SP from Loss %	$SP = CP \times (1 - L\%/100)$
Successive Profit/Loss (x%, y%)	$Net\% = x + y + xy/100$
Markup then Discount	$Net\% = (1 + m\%/100)(1 - d\%/100) - 1$
Dishonest Trader (False Weight)	$[(True\ Wt - False\ Wt) \div False\ Wt] \times 100$
Common Gain/Loss (equal % both sides)	$Loss\ \% = (Common\ \%/10)^2$

Practice Questions

Q1. [Basic CP-SP · Easy]

A shopkeeper buys an article for Rs. 450 and sells it for Rs. 540. Find his profit percentage.

- Profit = SP – CP = 540 – 450 = Rs. 90
- Profit % = $(90 \div 450) \times 100 = 20\%$

Answer: 20%

Q2. [Basic CP-SP · Easy]

A trader sells an item for Rs. 720 and incurs a loss of 10%. Find the cost price.

- $SP = CP \times (1 - 10/100) = CP \times 0.9$
- $720 = CP \times 0.9 \rightarrow CP = 720 \div 0.9 = Rs. 800$

Answer: Rs. 800

Q3. [Mismatched Units · Medium]

A vendor bought 6 oranges for Rs. 10 and sold them at 4 for Rs. 6. Find his loss or profit percentage.

- Take LCM of 6 and 4 = 12 oranges as the common base
- CP of 12 oranges = $(10/6) \times 12 = Rs. 20$
- SP of 12 oranges = $(6/4) \times 12 = Rs. 18$
- Loss = 20 – 18 = Rs. 2; Loss % = $(2/20) \times 100 = 10\%$

Answer: 10% Loss

Q4. [False Weight · Medium]

A dishonest shopkeeper professes to sell at cost price but uses a false weight of 900g instead of 1kg. Find his actual profit percentage.

- Formula: $[(\text{True Wt} - \text{False Wt}) \div \text{False Wt}] \times 100$
- $= [(1000 - 900) \div 900] \times 100 = (100/900) \times 100$

Answer: 11.11%

Q5. [False Weight · Medium]

A trader claims to sell at 10% profit but uses a weight of 950g for every 1kg. Find his actual overall profit percentage.

- Profit from declared margin = 10%
- Profit from false weight = $[(1000-950)/950] \times 100 = 5.26\%$
- Total gain % = Profit % + % less in weight $\div (100 - \% \text{ less in weight}) \times 100$, combined with declared profit
- Combined effect $\approx 10\% + 5.26\% + (10 \times 5.26)/100 \approx 15.79\%$

Answer: $\approx 15.79\%$

Q6. [Successive % Change · Easy]

An item's price is marked up by 40% and then discounted by 25%. Find the net percentage change on cost price if CP = MP before markup.

- $\text{Net}\% = (1 + 40/100)(1 - 25/100) - 1$
- $= (1.4 \times 0.75) - 1 = 1.05 - 1 = 0.05$

Answer: 5% Profit

Q7. [Common Gain/Loss Trap · Medium]

A merchant buys two items for Rs. 3,000 each. He sells one at a 20% profit and the other at a 20% loss. Find his net profit or loss.

- Equal CP + equal & opposite % always gives a net LOSS
- Loss % = $(20/10)^2 = 4\%$
- Net loss = 4% of total CP (Rs. 6,000) = Rs. 240

Answer: 4% Loss (Rs. 240)

Q8. [Weighted Average Profit · Medium]

A shopkeeper sells three-fifths of his rice stock at 12% profit and the rest at 7% profit. Find his overall profit percentage.

- Weighted average = $(3/5 \times 12) + (2/5 \times 7)$
- $= 7.2 + 2.8 = 10$

Answer: 10% Profit

Q9. [Mixed SP (profit + loss units) · Medium]

A dealer sells two horses at Rs. 19,800 each. On one he gains 10% and on the other he loses 10%. Find his overall profit or loss percentage.

- Equal SP with equal % profit/loss always results in a LOSS
- Loss % = $(10/10)^2 = 1\%$
- Total SP = 39,600; Total CP = $39,600 / 0.99 \approx 40,000$
- Net loss = $40,000 - 39,600 = \text{Rs. } 400$

Answer: 1% Loss (Rs. 400)

Q10. [Multi-Party Resale · Hard]

Amar sold a bike to Akbar at a 20% loss. Akbar sold the bike to Anthony at a 20% loss. The loss incurred by Akbar was Rs. 1,200 less than that incurred by Amar. Find the price at which Amar bought the bike.

- Let Amar's CP = x . Amar's loss = $0.2x$, so Akbar's CP (=Amar's SP) = $0.8x$
- Akbar's loss = $0.2 \times 0.8x = 0.16x$
- Given: Amar's loss – Akbar's loss = 1,200 $\rightarrow 0.2x - 0.16x = 1,200$
- $0.04x = 1,200 \rightarrow x = 30,000$

Answer: Rs. 30,000

Q11. [Multi-Party Resale · Hard]

Bina incurs a 19% loss when she sells a product at Rs. 4,860 to Shyam, who in turn sells it to Hari. If Bina had sold the product to Shyam at Hari's purchase price, she would have earned a 17% profit. Find Shyam's profit in rupees.

- Bina's CP: $4,860 = \text{CP} \times 0.81 \rightarrow \text{CP} = 6,000$
- If sold at 17% profit: $\text{SP} = 6,000 \times 1.17 = 7,020$ (this is Hari's purchase price, i.e., Shyam's SP)
- Shyam's profit = Shyam's SP – Shyam's CP = $7,020 - 4,860$

Answer: Rs. 2,160

Q12. [Overhead/Repair Costs · Medium]

A man buys a used bike for Rs. 18,000, spends Rs. 2,000 on repairs, and sells it for Rs. 22,000. Find his profit percentage.

- Total CP = $18,000 + 2,000 = \text{Rs. } 20,000$
- Profit = $22,000 - 20,000 = \text{Rs. } 2,000$
- Profit % = $(2,000/20,000) \times 100 = 10\%$

Answer: 10%

Q13. [Break-Even Concept · Hard]

A manufacturer's fixed cost is Rs. 1,20,000 and the contribution per unit is Rs. 40. If he sells 3,500 units, find his profit or loss.

- Break-even units = Fixed Cost $\div$ Contribution per unit = $1,20,000/40 = 3,000$ units
- Excess units sold = $3,500 - 3,000 = 500$
- Profit = $500 \times \text{Rs. } 40 = \text{Rs. } 20,000$

Answer: Rs. 20,000 Profit

Q14. [Successive Discounts · Medium]

A shop offers successive discounts of 20% and 10% on an item marked at Rs. 2,500. Find the final selling price.

- After first discount: $2,500 \times 0.8 = \text{Rs. } 2,000$
- After second discount: $2,000 \times 0.9 = \text{Rs. } 1,800$

Answer: Rs. 1,800

Q15. [TITA Style · Medium]

A retailer marks up an article by 50% above cost price and then allows a discount such that he still earns a 20% profit. Find the discount percentage.

- Let CP = 100. MP = 150. Required SP for 20% profit = 120
- Discount = MP – SP = $150 - 120 = 30$
- Discount % = $(30/150) \times 100 = 20\%$

Answer: 20%

More Practice Questions

Q16. [Basic CP-SP · Easy]

By selling a fan for Rs. 1,140, a shopkeeper loses 5%. At what price should he sell it to gain 8%?

- $CP = 1,140 \div 0.95 = \text{Rs. } 1,200$
- $\text{Required SP} = 1,200 \times 1.08 = \text{Rs. } 1,296$

Answer: Rs. 1,296

Q17. [Successive % Change · Medium]

The cost of an article is increased by 30% and then decreased by 30%. Find the net percentage change.

- $\text{Net\%} = (1.3)(0.7) - 1 = 0.91 - 1 = -0.09$

Answer: 9% Decrease (Net Loss)

Q18. [Discount & Markup · Medium]

A shopkeeper marks his goods 25% above cost price but allows a discount of 12% on the marked price. Find his profit percentage.

- Let $CP = 100$. $MP = 125$. $SP = 125 \times 0.88 = 110$
- $\text{Profit \%} = 10\%$

Answer: 10%

Q19. [Ratio-Based · Medium]

Two articles are sold at the same price. One is sold at a 20% profit and the other at a 20% loss. If the total cost price of both articles is Rs. 2,000, find the net profit or loss in rupees.

- $\text{Net loss \%} = (20/10)^2 = 4\%$
- $\text{Net loss} = 4\% \text{ of } 2,000 = \text{Rs. } 80$

Answer: Rs. 80 Loss

Q20. [Weighted Average · Hard]

A trader mixes two types of rice costing Rs. 40/kg and Rs. 60/kg in the ratio 3:2 and sells the mixture at Rs. 58/kg. Find his profit percentage.

- $CP \text{ per kg of mixture} = (3 \times 40 + 2 \times 60)/5 = (120 + 120)/5 = \text{Rs. } 48$
- $\text{Profit} = 58 - 48 = \text{Rs. } 10$
- $\text{Profit \%} = (10/48) \times 100 \approx 20.83\%$

Answer: $\approx 20.83\%$

This PDF is a companion resource to the CAT Mock article "CAT Profit and Loss Questions: Formulas, Shortcuts & Solved PYQs." For full-length CAT mock tests, daily practice sets, and previous year papers, visit catmock.com.