

CHAPTER 6

PROFIT AND LOSS, DISCOUNT AND TAXES

More Questions for Practice

1. A man sold two cars for ₹ 99000 each. On one he gains 10% and on the other he loses 10%. How much does he gain or lose in the whole transaction?
2. A man sells a radio set for ₹ 3450 and makes a profit of 15%. He sells a second radio set at a loss of 10%. If on the whole he neither gains nor loses, find the cost price of the second radio set.
3. By selling an article for ₹ 825, a man loses equal to $\frac{1}{3}$ of its selling price. Find its cost price.
4. If the selling price of 9 articles is equal to the cost price of 15 articles, what is the gain per cent?
5. If cost price of 6 pencils is equal to selling price of 8 pencils, then find the loss per cent.
6. Find the marked price of an article whose selling price is ₹ 629, and sold at a discount of 15%.
7. A retailer marks his goods 20% above cost price and allows a discount of 10%. Find his gain per cent.
8. A retailer buys 240 metres of cloth from a manufacturer for ₹ 1296. He sells three-fourths of it at a profit of $33\frac{1}{3}\%$ and the remainder at a loss of 10%. What profit per cent does he make on the deal?
9. A coal merchant makes a profit of 20% by selling firewood at ₹ 25 per quintal.
 - (a) What did 240 quintals of firewood cost him?
 - (b) If he sells the firewood at ₹ 22.50 per quintal, what is his profit per cent on the whole investment?
10. A shopkeeper allows a 5% off on the marked price of goods to his customers and still earns a profit of $16\frac{2}{3}\%$. Find the actual cost price for the shopkeeper of an article marked ₹ 400.
11. On selling an article for a certain price, a man loses 30%. What is his loss or profit per cent, if he sells the article for double the price?
12. If the selling price of 8 pens is equal to the cost price of 10 pens, then find profit per cent.
13. A bookshop had a sale. All books were 15% off. I bought an atlas for ₹ 272. How much would it have been before the sale?
14. A dishonest dealer professes to sell his goods at cost price but uses a weight of 960 grams for 1 kg. Find his gain per cent.

15. A cloth merchant, on selling 33 metres of cloth, gets a profit equal to the selling price of 11 metres of cloth. Find his profit per cent.

[Hint: Let the selling price of 1 metre of cloth be ₹ x .

$$\text{S.P. of 33 metres of cloth} = ₹ 33x$$

$$\text{Profit} = ₹ 11x$$

$$\therefore \text{C.P.} = ₹ (33x - 11x) = ₹ 22x$$

$$\text{Hence, profit per cent} = \frac{11}{22} \times 100 = 50\%.]$$

16. Harish bought a cradle for ₹ 215 and later sold it to Ram at a profit of 5%. Ram used it for his son for a period of two years and later sold it to his servant at a loss of 20%. For how much did the servant get it?

17. Usha bought 100 eggs for ₹ 80. She sold half of these at a profit of 10%. Five eggs got broken. At what profit per cent should she sell the remaining eggs so as to gain $12\frac{1}{2}\%$ on the whole?

[Hint: C.P. of 45 eggs = ₹ $\frac{80}{100} \times 45 = ₹ 36$

$$\text{C.P.} = ₹ 80, \text{ Profit} = 12\frac{1}{2}\%$$

$$\therefore \text{S.P.} = ₹ (80 \times 1.125) = ₹ 90$$

$$\text{S.P. of 50 eggs} = ₹ (40 \times 1.1) = ₹ 44$$

$$\therefore \text{S.P. of remaining 45 eggs} = ₹ (90 - 44) = ₹ 46$$

$$\therefore \text{Profit per cent on which 45 eggs should be sold} = \frac{46 - 36}{36} \times 100 = \frac{10}{36} \times 100 = 27\frac{7}{9}.]$$

18. As a publicity stunt, Devki sold 10 pens at a loss of 5%. Next day she raised the selling price by 20% and sold 100 pens. To her dismay, she found she had gained only ₹ 27 on these 110 pens. Find the cost price of a pen.

[Hint: Let the cost price of one pen be ₹ x .

$$\text{S.P. of 1 pen sold at a loss of 5\%} = ₹ (x \times 0.95) = ₹ 0.95x$$

$$\text{S.P. of 1 pen sold at a profit of 20\%} = ₹ (0.95x \times 1.2) = ₹ 1.14x$$

$$\text{Now, S.P. of first 10 pens} = ₹ (0.95x \times 10) = ₹ 9.5x$$

$$\text{S.P. of next 100 pens} = ₹ (1.14x \times 100) = ₹ 114x$$

$$\text{Total S.P.} = ₹ 123.5x \text{ and total C.P.} = ₹ 110x$$

$$\text{Hence, } 123.5x - 110x = 27 \Rightarrow 13.5x = 27 \Rightarrow x = 2.]$$

19. A manufacturer of knives sold a certain number of knives to the wholesale dealer at a profit of 25%. The wholesale dealer sold the same to the retailer at a profit of 25% again. The retailer had to raise some money quickly for an emergency and so he sold the knives to a fellow shopkeeper at a loss of 25% and obtained a sum of ₹ 11718.75. Find the cost of these knives to the manufacturer.

20. Articles are marked at a price which gives a profit of 25%. After allowing a certain discount, the profit reduces to $12\frac{1}{2}\%$. Find the discount per cent.
21. A shopkeeper marks his goods at 40% above the cost price but allows a discount of 5% on the cash payment to his customers. What actual profit does he make if he receives ₹ 1064 after paying the discount?
22. An article costs ₹ 700 to a manufacturer who lists its price at ₹ 800. He sells it to a trader at a discount of 5%. The trader gets a further discount of 5% for cash payment. Calculate:
- the amount that the trader pays to the manufacturer.
 - the profit per cent that the manufacturer makes on the sale.
23. A shopkeeper buys an article for ₹ 400 and marks it for sale at a price that gives him 80% profit on his cost. However, he gives 15% discount on the marked price to his customer. Calculate:
- the marked price of the article.
 - the discount in rupees given to the customer.
 - the actual percentage profit made by the shopkeeper.
24. A retailer buys shirts from the manufacturer for ₹ 75 and marks them for sale at ₹ 100. If this gives him a profit of 30% on his cost price, what percentage discount does he allow to his customers?

[Hint: C.P. = ₹ 75, M.P. = ₹ 100, Profit = 30%, S.P. = $75 \times \frac{100 + 30}{100} = ₹ 97.50$

Discount = ₹ 2.50, Discount % = $2\frac{1}{2}\%$.]

25. A photographer allows a discount of 10% on the marked price of a camera. What price must be marked on the camera, which costed him ₹ 900, to make a profit of 10%?
26. A bicycle agent allows 20% discount on the list price of a bicycle and then makes a profit of 10% on his outlay. What is the list price of the bicycle on the sale of which he gains ₹ 40?

[Hint: Let M.P. = x . Then, S.P. = $\frac{80}{100} \times x = 0.8x$, Profit = 10%, C.P. = $0.8x \times \frac{100}{100 + 10} = \frac{8x}{11}$.

$\therefore 0.8x - \frac{8x}{11} = 40 \Rightarrow x = 550.$]

27. A manufacturer lists the retail selling price of an article at $p\%$ more than the cost of production. If he gives a discount of $q\%$ to the retailers, what is his percentage of profit?

ANSWERS

1. ₹ 2000 (loss) 2. ₹ 4500 3. ₹ 1100 4. gain of $66\frac{2}{3}\%$ 5. 25%
6. ₹ 740 7. 8% 8. $22\frac{1}{2}\%$ 9. (a) ₹ 5000 (b) 8% 10. ₹ $325\frac{5}{7}$

11. 40% profit 12. 25% 13. ₹ 320 14. $4\frac{1}{6}\%$ 15. 50% 16. ₹ 180.60
17. $27\frac{7}{9}\%$ 18. ₹ 2 19. ₹ 10000 20. 10% 21. ₹ 264
22. (i) ₹ 722 (ii) $3\frac{1}{7}\%$ 23. (i) ₹ 720 (ii) ₹ 108 (iii) 53% 24. 2.5%
25. ₹ 1100 26. ₹ 550 27. $\left(\frac{100p - 100q - pq}{100}\right)\%$.

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