

Lesson

9

K L E TECHNOLOGICAL UNIVERSITY
DEPARTMENT OF HUMANITIES

PROFESSIONAL APTITUDE AND LOGICAL REASONING

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Profit and Loss

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Basic Concepts

- a) Cost Price: The cost price of an article is the price at which the article is bought
- b) Selling Price: The selling price of an article is the price at which the article is sold
- c) Profit: Selling Price is more than the cost price, there is profit
- d) Loss: Selling price is less than the cost price, there is loss

Gain or Loss = Selling Price (SP) - Cost Price (CP)

$$\% \text{ gain or Loss} = \frac{SP - CP}{CP} \times 100\%$$

Relation between CP, SP, Gain/Loss and Gain%/Loss%

$$\frac{\text{Gain}}{\text{Gain \%}} = \frac{\text{Cost Price}}{100} = \frac{\text{Selling Price}}{100 + \% \text{ gain}}$$

An Article Sold at Two Different Selling Price

Since, the same article is sold at two different prices, so cost price remains the same in both the cases

$$\frac{\text{Cost Price}}{100} = \frac{\text{Selling Price}}{100 + \% \text{ gain}}$$

We can combine both the cases as

$$\frac{\text{Cost Price}}{100} = \frac{\text{Selling Price}_1}{100 + \% \text{ gain}_1} = \frac{\text{Selling Price}_2}{100 + \% \text{ gain}_2}$$

Two Different Articles Sold at Same Selling Price

Article 1

Article 2

Sold at Rs. N

Sold at Rs. N

% Gain or % Loss = $x_1\%$

% Gain or % Loss = $x_2\%$

Overall % Gain or % Loss After Selling Two Articles

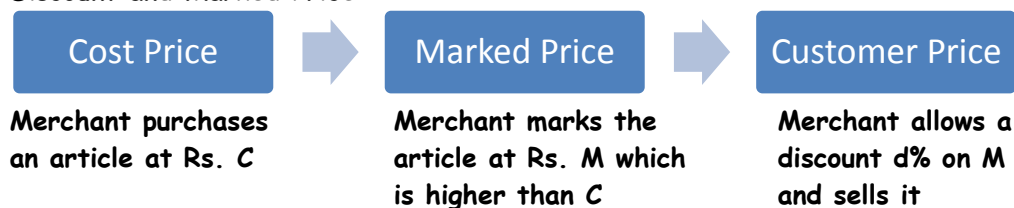
$$\text{Overall \%gain or \%loss} = 100 - \frac{2(100+x_1)(100+x_2)}{(100+x_1)+(100+x_2)}$$

If it is -ve then there is an overall loss

%Gain on First Article and %Loss on Second Article

Overall %Loss = $-\left(\frac{x^2}{100}\right)$, where x is the %gain or loss on each article

Discount and Marked Price



From the figure:

Marked Price - Amount of Discount = Customer Price (or Selling Price)

Marked Price (1-d%) = Selling Price

Selling Price = Cost Price (1 + gain%) where gain% = Customer Price - Cost Price

Marked Price (1-d%) = Selling or Customer Price = Cost Price (1+%gain)

Exercises

1. If P scores 4 out of 7 and Q scores 2 out of 3 then whose performance is better?
(a) P's (b) Q's (c) Equal (d) Can't say
2. If P is 50 % more than Q, then Q are how many percent less than P?
(a) 33.33 % (b) 20 % (c) 25 % (d) None of these
3. Ratio of salary of a worker in the month of January to that of February are 2:1 1/3. By what percent is salary of the worker for January greater than that for February?
(a) 16.66% (b) 33.33% (c) 50 % (d) Can't say
4. What percent of 150 are 52.5?
(a) 35% (b) 17.5 % (c) 60 % (d) 20 %
5. If the length of a rectangle increased by 110% and breadth is decreased by 80 %, what is the percentage change in area?
(a) 88 % increase (b) 88 % decrease (c) 58 % decrease (d) 58 % increase
6. A merchant gains 25 % by selling an article for Rs 50 .What would be his profit had he sold it for Rs 60?
(a) 25 % (b) 50 % (c) No profit (d) Indeterminable
7. P sells Q a cycle at a profit of 50 %. Q sells it to R at a loss of 33.33 %. What profit did P earn if R paid Rs. 100 for the cycle?
(a) 25 Rs (b) 250 Rs (c) 500 Rs (d) 50 Rs
8. Two articles are sold at same price. One of them was sold at profit of 30 % and the other at a loss of 30 %.What is net result of entire transaction?
(a) 9 % Loss (b) 9 % Profit (c) No Loss, No profit (d) Can't say
9. If TP (Tag price) = 26 Rs. and SP = 20 Rs. Then what is the percentage of discount?
(a) 25% (b) 23.07 % (c) 6 % (d) None of these
(b)
10. If two successive discounts are 25 % and 30 % then what is the overall discount?
(a) 27.5 % (b) 47.5 % (c) 55 % (d) None of these
11. If two successive discounts given on a commodity are 30 % and 40 % then what is SP of the product if Tag price is 200 Rs?
(a) 35 Rs. (b) 70 Rs. (c) 48 Rs. (d) 84 Rs.
12. If cost price of 12 articles is equal to selling price of 10 articles, then what is the profit / loss percentage?
(a) 20 % profit (b) 20 % Loss (c) 22 % profit (d) 11 % Loss

PROFIT & LOSS

13. There would be 10 % loss if an article is sold at 90 Rs. / piece. If a profit of 25 % is to be earned, at what price per dozen articles should be sold?
(a)1150 (b)1600 (c)1500 (d)1450
14. A man buys a certain number of items at 50 per Rs. 10, and the same number at 40 per Rs. 10. He sells the items at 90 per Rs. 20. Does he gain or lose and by what percentage?
(a)1.33 % loss (b) 1.33 % profit (c) No loss , no gain (d)None of these.
15. The sale of a wholesaler increases by 10% every week. If the difference between sales of 4th week and 2nd week is Rs. 115.50, what are the sales in 2nd week?
(a)Rs. 500 (b) Rs. 1150 (c) Rs. 615 (d) Rs. 550
16. By selling an item at three - fourth of its actual selling price, a trader incurs a loss of 10 %. What will be the profit percent if the trader sells the item at the actual selling price?
(a)20 % (b)15 % (c)25 % (d)10 %
17. A retailer marks his product 40 % above CP and then gives 28.42 % discount. Find his gain.
(a)34.21 % (b)40 % (c)28.42% (d) No gain
18. A man purchases 9 pencils for Rs. 10 and sells them at the rate of 6 pencils for Rs. 7. What is his Profit / loss percentage?
(a)5 % profit (b) 5 % loss (c) 1 % profit (d) 20 % profit
19. A merchant marks his goods at such a price that after allowing a discount of 12.5% for cash, he makes a profit of 20 %. What is the marked price of an article, which costs him Rs. 210?
(a) 252 Rs. (b)280 Rs. (c)288 Rs. (d)None of these.
20. A man purchases 54 books for Rs. 100 and sells them at the rate of 18 books for Rs. 60. What is his Profit / loss percentage?
(a)5 % profit (b) 80 % loss (c) 75 % profit (d) 80 % profit
21. By selling an item at four- fifth of its actual selling price, a retailer incurs a loss of 10 %. What will be the profit percent if the retailer sells the item at the actual selling price?
(a)12.5 % (b)20 % (c)25 % (d)11.11 %
22. If P's salary is 50 % more than Q's, then Q's salary are how many percent less than A?
(a)32 % (b)43.2% (c)3.33% (d)33.33%
23. If the length of a rectangle increased by 50% and breadth is decreased by 50 %, what is the percentage change in area?

PROFIT & LOSS

- (a) 50 % increase (b) 25 % decrease (c) 25 % decrease (d) None of these
24. A merchant gains 20 % by selling an article for Rs 12 .What would be his profit had he sold it for Rs 6?
(a)25 % (b)40 % (c)No profit (d)Indeterminable
25. Two articles are sold at same price. One of them was sold at profit of 19 % and the other at a loss of 19 %.What is net result of entire transaction?
(a) 3.61 % Loss (b) 3.61 % Profit (c) No Loss, No profit (d)Can't say
26. If TP (Tag price) =19 Rs. and SP = 14 Rs. Then what is the percentage of discount?
(a)5% (b)20 % (c)26.31 % (d)None of these
27. If two successive discounts are 19 % and 20 % then what is the overall discount?
(a)19.5 % (b)35.2 % (c)39 % (d)None of these
28. Two articles are sold at same price. One of them was sold at profit of 16 % and the other at a loss of 16 %. What is net result of the entire transaction?
(a) 2 .56% Loss (b) 2.56 % Profit (c) No Loss, No profit (d) Can't say
29. If two successive discounts are 30 % and 50 % then what is SP of the product if Tag price is 20000 Rs?
(a) 4000 Rs. (b)15000 Rs. (c)7000 Rs. (d) 700 Rs.
30. If cost price of 19 articles is equal to selling price of 10 articles, then what is the profit / loss percentage?
(a)90 % profit (b) 19 % Loss (c) 39 % profit (d) 19 % Profit
31. There would be 15 % loss if wheat is sold at 10.2 Rs. / kg. If a profit of 10 % is to be earned, at what price per kg wheat should be sold?
(a)15.10 Rs. (b)16 Rs. (c)13.20 Rs. (d)14.5 Rs.
32. The sale of a trader increases by 20% every week. If the difference between sales of 1st week and 3rd week is Rs. 880, what are the sales in 2nd week?
(a)Rs. 3456 (b)Rs. 2000 (c)Rs. 2400 (d)Rs. 880
33. If cost price of 26 articles is equal to selling price of 20 articles, then what is the profit / loss percentage?
(a)15 % loss (b)30 % profit (c)46 % profit (d)30 % loss
34. If P is 60 % more than Q, then by how many percent Q is less than P?
(a)20% (b)60% (c)35% (d)37.5%
35. A merchant gains one fifth of cost price by selling an article for Rs 12 .What would be his profit had he sold it for Rs 11?
(a)10 % (b)40 % (c)No profit (d) Indeterminable

PROFIT & LOSS

36. Raj sells Mohan a scooter at a profit of 30 %. Mohan sells it to Shreyas at a loss of 20 %. What profit did Raj earn if Shreyas paid Rs. 1040 for the scooter?
(a)300 Rs. (b)140 Rs. (c)400 Rs. (d)40 Rs.
37. Two articles are sold at same price. One of them was sold at profit of 29 % and the other at a loss of 29 %.What is net result of entire transaction?
(a) 8.41% Loss (b) 8.41 Profit (c) No Loss, No profit (d)Can't say
38. If TP (Tag price) =40 Rs. and SP = 22 Rs. Then what is the percentage of discount?
(a)35% (b)45 % (c)42.84 % (d)None of these
39. If two successive discounts are 80 % and 30 % then what is the overall discount?
(a)55 % (b)110 % (c)86 % (d)50%
40. If cost price of 34 articles is equal to selling price of 25 articles, then what is the profit / loss percentage?
(a)29.5 % profit (b) 9 % Loss (c) 36 % profit (d) 25 % Profit
41. A man buys a certain number of mangoes at 15 per Rs. 10, and the same number at 25 per Rs. 10. He sells the mangoes at 40 per Rs. 20.Does he gain or lose and by what percentage?
(a)6.25 % loss(b) 6.25 % profit (c) No loss , no gain (d)None of these.