

## Profit and Loss

# PROFIT AND LOSS

## Profit & Loss

- Relation between CP, SP and MP
- Concept of profit/loss percent and Discount percent
- Number of articles based questions
- Successive discount problems
- Concept of Dishonest shopkeeper/ Faulty weight
- Data Sufficiency on related topic

# Profit and Loss

- **Profit or Gain** = Selling price – Cost Price
- **Loss** = Cost Price – Selling Price
- **Profit %** = (Profit / Cost Price) x 100
- **Loss %** = (Loss / Cost price) x 100
- **Discount** = Marked Price – Selling Price
- **Discount %** = (Discount/Marked price) x 100

# Profit and Loss

- **CP = Cost Price = The price at which an object is Purchased**
- **SP = Selling Price = The price at which the object is Sold.**

**When,  $SP < CP \rightarrow \text{Loss} = CP - SP$**

**When,  $SP > CP \rightarrow \text{Profit} = SP - CP$**

**Note: Loss% and Profit% both are calculated upon CP**

**$\text{Profit}\% = [\text{Profit}/CP] * 100$**

**$\text{Loss}\% = [\text{Loss}/CP] * 100$**

# Profit and Loss

- **When profit% is given, say, 10% profit**
  - **If 10% profit, then we simply do:**
  - **$CP = 100\%$  and  $SP = 110\%$**
  
- **When loss% is given, say, 10% loss**
  - **For 10% loss, then we simply do:**  
 **$CP = 100\%$  and  $SP = 90\%$**

## Profit and Loss

1. Rohit buys an old cycle for Rs. 5500 and spends Rs. 1000 on its repairs. If he sells the cycle for Rs. 8000, his gain percent is:

A]  $300/13$

B]  $500/13$

C]  $200/13$

D]  $400/13$

## Profit and Loss

2. A man bought a Car for Rs.60000 and spend 10% of the cost of the car for purchase of new tires. At what price should he sell the car to make a gain of 15%?

A] Rs.79500

B] Rs.74500

C] Rs.75900

D] Rs.73500

## Profit and Loss

3. A shopkeeper expects a gain of 22.5% on his cost price. If in a week, his sale was of Rs. 784, what was his profit(in Rs)?

A] 144

B] 72

C] 36

D] 180



## Profit and Loss

4. By selling a plot of land for Rs. 45000, A person loss 10%. And what price should it sell to gain 15%?

A] Rs.50000

B] Rs.55000

C] Rs.57500

D] Rs.60000

## Profit and Loss

5. A trader sells 145 m of cloth for Rs. 12325 at the profit of Rs. 10 per meter of cloth what is the cost price of 1 meter of cloth?

A] Rs.75  
C] Rs.95

B] Rs.65  
D] Rs.85

## Profit and Loss

6. Sam purchased 20 dozens of toys at the rate of Rs. 375 per dozen. He sold each one of them at the rate of Rs. 35. What was his percentage profit?

A] 15

B] 14

C] 8

D] 12

## Profit and Loss

7. A man bought some oranges at Rs. 10 per dozen and bought the same number of oranges at Rs. 8 per dozen. He mixes both and sold these oranges at Rs. 11 per dozen and gained Rs. 120. The total number of oranges bought by him was:

- A] 30 dozens
- C] 50 dozens

- B] 40 dozens
- D] 60 dozens

## Profit and Loss

8. A person purchases 90 clocks and sells 40 clocks at a gain of 10% and 50 clocks at a gain of 20%. If he sold all of them at a uniform profit of 15%, then he would have got Rs. 40 less. The cost price of each clock:

A]. Rs.50

B]. Rs.60

C]. Rs.80

D]. Rs.90

## Profit and Loss

9. 'X' sells fruits at 21% profit. If X bought it for 9% less and sold it for Rs.29 less, he would have gained 25%. The cost price of fruits is?

A] Rs. 400

B] Rs. 420

C] Rs. 460

D] Rs. 48

# Profit and Loss

## **Case 1: Equal % profit & loss on the same cost price of 2 articles:**

If the cost price of two items are X, and one is sold at a loss of p % and the other at a profit of p %, then the two transactions have resulted in no loss or no gain.

## **Case 2 : Equal % profit & loss on the same selling price of 2 articles:**

If two items are sold at Rs X each, one at a loss of p % and the other at a gain of p %, then the two transactions have resulted in an overall loss of  $(p^2/100)$  %. This is the loss in percentage.

## Profit and Loss

10. A dealer sold two TV sets for Rs 7400 each. On one he gain 10% and on the other, he loss 10%.' The dealer gain or loss in the transaction was?

A] no profit or loss  
C] 0.1 % loss

B] 1% gain  
D] 1% loss



## Profit and Loss

11. The percentage profit earned by selling an article for Rs. 1920 is equal to the percentage loss incurred by selling the same article for Rs. 1280. At what price should the article be sold to make 30% profit?

A] Rs.2000  
C] Rs.2100

B] Rs.2050  
D] Rs.2080

# Profit and Loss

- When the SP of  $x$  articles is equal to CP of  $y$  articles, what is the earned profit in percentage?
- Profit percent =  $100 \times \frac{\text{difference in } x \text{ and } y}{x}$

## Profit and Loss

12. The cost price of 16 article equal to selling price of 12 of them. The gain or loss percent in the transaction is:

A] 33.33 % Gain

B] 23.33% loss

C] 23.33 % Gain

D] 33.33 % loss

## Profit and Loss

13. The cost price of 27 articles is the same as the selling price of  $x$  articles. If the profit is 50 %, then the value of  $x$  is:

A] 16

B] 11

C] 18

D] 14

## Profit and Loss

14. On selling 17 balls at Rs. 720, there is a loss equal to the cost price of 5 balls. The cost price of a ball is(in Rs.):

A] 50

B] 60

C] 80

D] 70

## Profit and Loss

15. The market price of a chair was Rs. 1200. This price was 20% above the cost price. It was sold at a discount of 10% on the marked price. Find the profit percent?

A] 6 %

B] 4 %

C] 8 %

D] 5 %

## Profit and Loss

16. A merchant decided to mark up his goods by 20% and then offered 10% discount. What will be a percentage of profit or loss?

A. 8% profit

B. 8% loss

C. 4% loss

D. 4% profit

## Profit and Loss

17. The marked price of a shirt is Rs. 1500. A shopkeeper offers 10% discount on this shirt and then again offers 20% discount on the new price. How much will you have to pay, finally?

A] Rs.1000

B] Rs.1480

C] Rs.1650

D] Rs.1080



## Profit and Loss

18. The marked price of a shirt is Rs. 1500. A shopkeeper offers 10% discount on this shirt and then again offers 20% discount on the new price, and then again offers 30% discount on the new price. How much will you have to pay, finally?

A] Rs.759

B] Rs.780

C] Rs.650

D] Rs.756

# Profit and Loss

**Dishonest Dealer:** A dishonest dealer is one who claims to sell his product in welfare of customer but either he alters weight or he marks up price too high and then gives discount to attract customers.

Let us assume that the shopkeeper makes a gain of G% in selling his product.

Therefore,

$$(100+G)/(100+x) = \text{True weight/ False weight}$$

Here,

G = Overall gain percentage

X = %loss or % gain

Also, another formula that you can remember, in case the shopkeeper sells at the cost price, is:

**Gain Percentage:**

$$\frac{\text{Error}}{\text{True weight} - \text{error}} \times 100$$

## Profit and Loss

19. A dishonest dealer professes to sell his good at cost price but uses a false weight and thus gains 25%. For a kilogram he uses a weight of

- |            |         |
|------------|---------|
| A] 800g    | B] 850g |
| C] 766.67g | D] 875g |

## Profit and Loss

20. Let a dishonest shopkeeper sells sugar at Rs 25/kg which he has bought at Rs 20/kg and he is giving 800gm instead of 1000gm. Find his actual profit percentage?

- A] 50%
- C] 25.5%

- B] 25%
- D] 56.25%

## Profit and Loss

21. The spring balance of a trader shows 1 kg for an actual weight of 750 grams. Find the profit or loss percentage if the trader marked the price at 10% above the cost price ?

A]. 46.67% profit

B]. 46.67% loss

C]. 43.33% profit

D]. 43.33% loss

## Profit and Loss

22. A shopkeeper sells some articles at the profit of 35% on the original price. What is required to find the exact amount of profit?

- I. Sale price of the article.
  - II. Number of articles sold.
- 
- A. Only I is necessary
  - B. Only II is necessary
  - C. Either I or II is necessary
  - D. Both I and II are necessary
  - E. None of these

## Profit and Loss

23. By selling a product with 40% profit, how much profit was earned?

- I. The difference between cost and selling price is Rs. 60.
- II. The selling price is 140 percent of the cost price.

- A. I alone sufficient while II alone not sufficient to answer
- B. II alone sufficient while I alone not sufficient to answer
- C. Either I or II alone sufficient to answer
- D. Both I and II are not sufficient to answer
- E. Both I and II are necessary to answer

## Profit and Loss

24. A stockiest wants to make some profit by selling sugar. He contemplates about various methods. Which of the following would maximize his profit?

- I. Sell sugar at 10% profit.
- II. Use 900 g of weight instead of 1 kg.
- III. Mix 10% impurities in sugar and selling sugar at cost price.
- IV. Increase the price by 5% and reduce weights by 5%.

- |                    |                      |
|--------------------|----------------------|
| A]. I or III       | B]. II               |
| C]. II, III and IV | D]. Profits are same |



*Any Doubts???*