

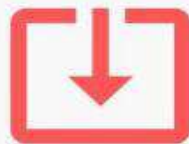
PRACTICE

MOCK

MATH

# SBI Clerk 2020 Mains

Profit & Loss Concept, Formulas, Tricks,  
Examples & Questions for Practice



DOWNLOAD **FREE** PDF

## SBI Clerk 2020 Mains- Profit & Loss Definitions

- **MRP (Maximum Retail Price):** The price which is printed on an object. Discounts are generally calculated on MRP.
- **Discount:** Discount is deduction from the cost of something. It is usually denoted in percentage and is calculated on MRP.
- **Selling Price:** Selling price is the final price at which seller and buyer agree. It is generally calculated after deducting discount from MRP.  $S.P. = MRP - \text{Discount}$
- **Cost Price:** It is the price at which the seller bought the product.
- **Profit/ Loss:** Profit/ loss is calculated on the difference between selling price and cost price. The profit/ loss percentage is always calculated on cost price.

[SBI Clerk 2020 Mains Free Mock Test](#)

To help these terms better, let us consider an example:

### SBI Clerk 2020 Mains- Profit & Loss Examples

#### Profit & Loss- Example 1

Swami bought a phone for which the MRP is Rs 5000. He negotiated with the seller and asked for a discount of 25%. The seller agreed on a discount of 20%. After a month he resold the toy at the MRP to Ananth. Ananth used the phone for some time and sold it to Hari after giving a discount of Rs 3000.

Cost price for the seller: Not mentioned

Discount given by the seller:  $5000 * 20 / 100$

Selling Price for the seller:  $5000 * (100 - 20) / 100 = 4000$

Profit for the seller: Cost Price is not mentioned, so the seller's profit can't be calculated

Cost Price for Swami = Selling Price for the seller = 4000

Selling Price for Swami = MRP = 5000

Profit for Swami =  $5000 - 4000 = 1000$

Profit Percentage for Swami =  $1000 * 100 / 4000 = 25\%$

Cost Price for Ananth = Selling Price for Swami = 5000

Discount given by Ananth = 3000

Discount percentage given by Ananth =  $3000 * 100 / 5000 = 60\%$

Selling Price for Ananth = 2000

Loss for Ananth =  $2000 - 5000 = -3000$  (Minus sign denotes loss)

**SBI Clerk  
2020 Mains**

**Get Your All India Rank**  
Take a **FREE** Mock Test



Loss percentage for Ananth =  $3000 \times 100 / 5000 = 60\%$

Hope the above example & its interpretation in terms of definitions have given you a good understanding of the basic concept. Let us sail through some other examples to help you understand the concept better.

### Profit & Loss-Example 2

In a transaction, the profit percentage is 80% of the cost. If the cost further increases by 20% but the selling price remains the same, how much is the decrease in profit percentage points?

Let's assume CP to be 100

Profit Percentage: 80%

SP will be 180

New CP: 120

New profit:  $180 - 120 = 60$

Profit percentage:  $60 \times 100 / 120 = 50\%$

Thus, the profit decreases by 30 percentage points.

[SBI Clerk 2020 Mains Free Mock Test](#)

### Profit & Loss-Example 3

Alok bought a second-hand printer for Rs 1750 and spent Rs  $(x + 50)$  on its maintenance. He then sold it to Akul for Rs 2,520 making a profit of 20%. Find the value of x.

SP for Alok: 2520

Profit%: 20

CP for Alok after maintenance:  $2520 \times 100 / (100 + 20) = 2100$

Maintenance:  $2100 - 1750 = 350$

Value of x: 300

### Profit & Loss-Example 4

Ved buys 12 toys for Rs 10 and sells 10 toys for Rs 12. Find his profit percentage.

CP of 12 toys: 10

SP of 10 toys: 12

SP of 12 toys:  $12 / 10 \times 12 = 14.4$

Profit% =  $(14.4 - 10) \times 100 / 10 = 44\%$

### SBI Clerk 2020 Mains- Profit & Loss Tricks

After doing substantial practice on these types of questions, you will realize the below:

- To calculate the Selling Price at 10% profit you need to multiple the Cost Price by 1.1. 1.1 is nothing but  $(100 + 10) / 100$ .

- To calculate the Selling Price at 10% loss you need to multiple the Cost Price by 0.9. 0.9 is nothing but  $(100 - 10)/100$ .
- To calculate the Cost Price at 10% profit you need to divide the Selling Price by 1.1. 1.1 is nothing but  $100/(100+10)$ .
- To calculate the Cost Price at 10% loss you need to divide the Selling Price by 0.9. 0.9 is nothing but  $100/(100-10)$ .

[SBI Clerk 2020 Mains Free Mock Test](#)

## SBI Clerk 2020 Mains- Profit & Loss- Questions for Practice

1. The cost price of 15 kg of wheat is equal to the selling price of 10 kg wheat, the cost price of 18 kg of rice is equal to the selling price of 15 kg rice, and the cost price of 15 kg of millet is equal to the selling price of 20 kg millet. If the ratio of cost price of wheat, rice and millet (per kg) is 4:5:6 respectively, then find the overall percentage profit or loss on selling 1 kg wheat, 2 kg rice and 1 kg millet.

- a. 12.5%
- b. 15%
- c. 10%
- d. 20%
- e. 17.5%

**Answer: a)**

**Solution:**

Let, the cost price of wheat, rice, and millet (per kg) be Rs.  $4x$ , Rs.  $5x$ , and Rs.  $6x$  respectively.

So, selling price of wheat =  $(15/10) \times 4x = \text{Rs. } 6x$

So, selling price of rice =  $(18/15) \times 5x = \text{Rs. } 6x$

So, selling price of millet =  $(15/20) \times 6x = \text{Rs. } 4.5x$

So, total cost price of 1 kg wheat, 2 kg rice and 1 kg millet =  $4x \times 1 + 5x \times 2 + 6x \times 1 = 4x + 10x + 6x = \text{Rs. } 20x$

**SBI Clerk  
2020 Mains**

**Get Your All India Rank**  
Take a **FREE** Mock Test



So, total selling price of 1 kg wheat, 2 kg rice and 1 kg millet =  $6x \times 1 + 6x \times 2 + 4.5x \times 1 = 6x + 12x + 4.5x = \text{Rs. } 22.5x$

Therefore, required profit percentage =  $\{(22.5x - 20x)/20x\} \times 100 = \{(2.5x)/20x\} \times 100 = 2.5 \times 5 = 12.5\%$

Hence, option a.

2. Both Rajesh and Ramesh bought the same article for Rs. 4800. Rajesh marked the article 60% above the cost price and sold it after two consecutive discounts of 25% and  $x\%$ , whereas Ramesh marked the article 30% above the cost price and sold it after a single discount of  $x\%$ . Find the value of ' $x$ ' if the difference in their selling prices is Rs. 384.

- a. 25%
- b. 12%
- c. 15%
- d. 20%
- e. 10%

**Answer: d)**

[SBI Clerk 2020 Mains Free Mock Test](#)

**Solution:**

Marked price of the article by Rajesh =  $4800 \times 1.60 = \text{Rs. } 7,680$

Selling price of the article by Rajesh =  $7680 \times 0.75 \times \{(100 - x)/100\} = \text{Rs. } (5760 - 57.6x)$

Marked price of the article by Ramesh =  $1.30 \times 4800 = \text{Rs. } 6,240$

Selling price of the article by Ramesh =  $6240 \times \{(100 - x)/100\} = \text{Rs. } (6240 - 62.4x)$

According to question,

either  $6240 - 62.4x - 5760 + 57.6x = 384$  or  $5760 - 57.6x - 6240 + 62.4x = 384$

$480 - 4.8x = 384$  or  $4.8x - 480 = 384$

$$4.8x = 96 \text{ or } 4.8x = 864$$

$$x = 20\% \text{ or } x = 180\%$$

Discount can't be greater than 100% as the selling price become negative.

So, the value of 'x' = 20%.

Hence, option d.

3. A shopkeeper marked an article at 80% above the cost price and sold it after two consecutive discounts of 25% and 20%. Another shopkeeper marked the same article 30% above the cost price and sold it after a single discount of 20%. Find the cost price of the article if the difference between the selling prices of article by both the shopkeepers is Rs. 480.

- a. Rs. 10,000
- b. Rs. 12,000
- c. Rs. 15,000
- d. Rs. 13,000
- e. Rs. 14,000

**Answer: b)**

**Solution:**

Let, the cost price of the article = Rs. x

Then, marked price of the article by first shopkeeper = Rs. 1.80x

Selling price of the article by first shopkeeper =  $1.80x \times 0.80 \times 0.75 = \text{Rs. } 1.08x$

Marked price of the article by second shopkeeper = Rs. 1.30x

Selling price of the article by second shopkeeper =  $1.30x \times 0.80 = \text{Rs. } 1.04x$

According to question:

**SBI Clerk  
2020 Mains**

**Get Your All India Rank**  
Take a **FREE** Mock Test

1  
1ST  
2 1 3

$$1.08x - 1.04x = 480$$

$$0.04x = 480, x = 12000$$

So, the selling price of the article = Rs. 12,000

Hence, option b.

[SBI Clerk 2020 Mains Free Mock Test](#)

4. Cost price of two items X and Z is the same. The shopkeeper marked item X at 50% above the cost price and item Z at 40% above the cost price. A discount of 12% and 25% is given on item X and Z, respectively. Total profit earned was Rs. 3,367. Find the cost price of item X.

a. Rs. 9,600

b. Rs. 9,100

c. Rs. 9,400

d. Rs. 8,600

e. Rs. 8,800

**Answer: b)**

**Solution:**

Let the cost price of X or Z = Rs. 100y

Marked price of X =  $1.50 \times 100y = \text{Rs. } 150y$

Marked price of Z =  $1.40 \times 100y = \text{Rs. } 140y$

Selling price of X =  $0.88 \times 150y = \text{Rs. } 132y$

Selling price of Z =  $0.75 \times 140y = \text{Rs. } 105y$

Total profit =  $132y + 105y - 200y = 3,367$

$$y = 91$$

So, cost price of item X =  $91 \times 100 = \text{Rs. } 9,100$

Hence, option b.

5. A shopkeeper sold an article for Rs.  $(x - 60)$  and thereby makes a loss of 20%. Had he sold the same article for Rs.  $(x + 30)$ , he would have made same percentage of profit. Find the selling price of article to earn a profit of 40%.

- a. Rs. 365
- b. Rs. 345
- c. Rs. 305
- d. Rs. 315
- e. Rs. 325

**Answer: d)**

**Solution:**

According to question,

$$0.8 \times (\text{Cost price of article}) = \text{Rs. } (x - 60) \text{ -----(i)}$$

$$\text{Also, } 1.2 \times (\text{Cost price of article}) = \text{Rs. } (x + 30) \text{ -----(ii)}$$

Using both equations, we get,

$$(x - 60)/0.8 = (x + 30)/1.2$$

$$1.2x - 72 = 0.8x + 24$$

$$0.4x = 96$$

$$x = 240$$

$$\text{Cost price of the article} = (240 - 60)/0.8 = \text{Rs. } 225$$

$$\text{Therefore, required selling price} = 225 \times 1.4 = \text{Rs. } 315$$

Hence, option d.

[SBI Clerk 2020 Mains Free Mock Test](#)

## SBI PO 2020 Prelims- Profit & Loss- Questions for Practice

1. Vikrant purchased 30 kg of rice at the rate of Rs. 20 per kg and 40 kg at the rate of Rs. 35 per kg. He mixed the two. At what price per kg should he sell the mixture to make 40% profit in the transaction?



**SBI Clerk  
2020 Mains**

**Get Your All India Rank**  
Take a **FREE** Mock Test



- a. Rs. 25 per kg
- b. Rs. 30 per kg
- c. Rs. 40 per kg
- d. Rs. 20 per kg
- e. Rs. 35 per kg

**Answer: c)**

**Solution:**

Total cost of rice =  $30 \times 20 + 40 \times 35 = \text{Rs. } 2000$

Total quantity of rice =  $30 + 40 = 70 \text{ kg}$

For 40% profit, selling price =  $1.4 \times 2000 = \text{Rs. } 2800$

Rate of rice per kg =  $2800/70 = \text{Rs. } 40 \text{ per kg}$

Hence option c.

**2. If a shopkeeper sold 25 articles of same type at the cost price of 17 articles of same type, then find the profit/loss percent earned by the shopkeeper.**

- a. 28%
- b. 32%
- c. 36%
- d. 40%
- e. 24%

**Answer: b)**

**Solution:**

Given, selling price of 25 articles = cost price of 17 articles

$$25 \times SP = 17 \times CP$$

$$SP/CP = 17/25$$

Since,  $SP < CP$ , so there will be loss.

$$\text{Loss} = 25 - 17 = 8$$

$$\text{Loss percent earned by the shopkeeper} = (8/25) \times 100 = 32\%$$

Hence, option b.

[SBI Clerk 2020 Mains Free Mock Test](#)

3. A shopkeeper marked an article at 40% above cost price, and sold it after 2 consecutive discounts of 10% and 20%. In this transaction he made a profit of Rs. 416. Find the profit earned by the shopkeeper, if he had sold the article at a profit of 12%.

- a. Rs. 6,240
- b. Rs. 5,240
- c. Rs. 6,840
- d. Rs. 5,840
- e. Rs. 6,160

**Answer: a)**

**Solution:**

Let the CP of the article be Rs. 'x'.

So, the marked price of the article =  $1.40 \times x = \text{Rs. } 1.4x$

Selling price of the article =  $0.90 \times 0.80 \times 1.4x = \text{Rs. } 1.008x$

$$\text{Profit} = 1.008x - x = 416$$

$$0.008x = 416, x = 52,000$$

Profit earned by shopkeeper at 12% =  $52000 \times 0.12 = \text{Rs. } 6,240$

Hence, option a.

4. A shopkeeper sold an article at 42% profit. Had he sold the article at 15% loss; he would have earned Rs. 969 less. Find the cost price of the article.

- a. Rs. 1200
- b. Rs. 1700
- c. Rs. 2000
- d. Rs. 2200
- e. Rs. 1500

**Answer: b)**

**Solution:**

Let, cost price of article be Rs.  $x$

So,  $142\%$  of  $x - 85\%$  of  $x = 969$

$$1.42x - 0.85x = 969$$

$$0.57x = 969, x = 1700$$

Therefore, cost price of article = Rs. 1700

Hence, option b.

[SBI Clerk 2020 Mains Free Mock Test](#)

5. A shopkeeper bought an article of cost price of Rs. 600, marked up by 50% and sold it for Rs. 720. Find the percentage discount offered by the shopkeeper.

- a. 30%
- b. 20%
- c. 15%
- d. 40%

**SBI Clerk  
2020 Mains**

**Get Your All India Rank**  
Take a **FREE** Mock Test



e. 25%

**Answer: b)**

**Solution:**

Marked up price =  $600 \times 1.5 = \text{Rs. } 900$

So, required percentage discount =  $[(900 - 720)/900] \times 100 = 20\%$

Hence, option b.

