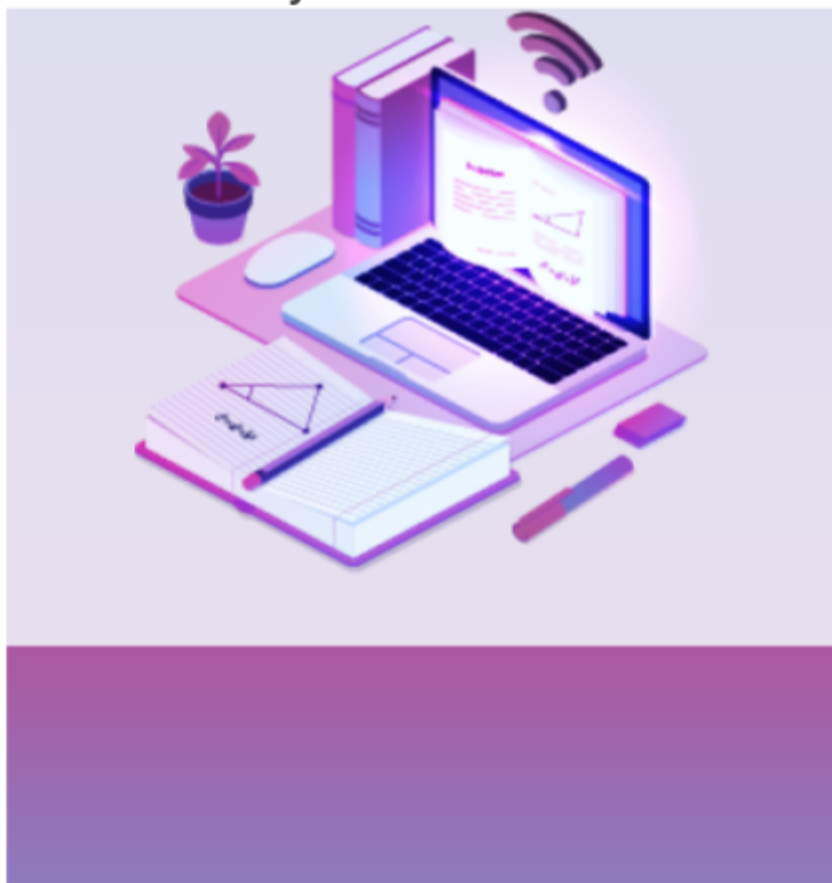


# **Profit, Loss & Discounts**

## **Formulas and shortcuts**

By GMATPoint.com



## Profit, Loss & Discounts

### Formulas and shortcuts

- Profit, Loss, and Discount is an important topic for the **GMAT**, with questions asked under the Word Problem category.
- The number of concepts in these areas is modest, and the equations may be used to answer the majority of the problems.
- This document provides a variety of profit, loss, and discount formulas, recommendations, and shortcuts.

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## **Profit and Loss**

### **Cost Price:**

The amount paid to purchase an article or the cost of manufacturing an article is called Cost Price (C.P)

### **Selling Price:**

The price at which a product is sold is called Selling price (S.P)

### **Marked Price:**

The price at which an article is marked is called Marked price (M.P)

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If  $S.P > C.P$ , then Profit or Gain,

$$P = S.P - C.P$$

If  $C.P > S.P$ , then Loss,

$$L = C.P - S.P$$

% Profit or Gain percentage or Profit

$$\text{Percentage} = \frac{\text{Profit}}{C.P} \times 100$$

$$\% \text{Loss} = \frac{\text{Loss}}{C.P} \times 100$$

Discount =  $M.P - S.P$  (If no discount is given, then  $M.P = S.P$ )

$$\% \text{Discount} = \frac{\text{Discount}}{M.P} \times 100$$

Total increase in price due to two subsequent increases of  $X\%$  and  $Y\%$  is  $(X + Y + \frac{XY}{100})\%$

If two items are sold at same price, each at Rs. x, one at a profit of P% and other at a loss of

P% then there will be overall loss of  $\frac{P^2}{100}$

The absolute value of loss =  $\frac{2P^2x}{100^2 - P^2}$

If C.P of two items is the same, and by selling each item he earned p% profit on one article and p% loss on another, then there will be no loss or gain.

If a trader professes to sell at C.P but uses false weight, then

$$\text{Gain\%} = \frac{\text{Error}}{\text{True value} - \text{Error}} \times 100$$

$$S.P = \left( \frac{100 + Profit\%}{100} \right) C.P \text{ (If } S.P > C.P \text{)}$$

$$S.P = \left( \frac{100 - Loss\%}{100} \right) C.P \text{ (If } S.P < C.P \text{)}$$

$$C.P = \frac{100 \times S.P}{100 + Profit\%} \text{ (If } S.P > C.P \text{)}$$

$$C.P = \frac{100 \times S.P}{100 - Loss\%} \text{ (If } S.P < C.P \text{)}$$

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Buy x get y free, then the %discount =  $\frac{y}{x+y} \times 100$ .

(here  $x+y$  articles are sold at C.P of  $x$  articles.)

When there are two successive discounts of  $a\%$  and  $b\%$  are given then the,

$$\text{Resultant discount} = \left( a + b - \frac{a*b}{100} \right)$$

If C.P of  $x$  article is equal to the selling price of  $y$  articles then the,

$$\text{Resultant profit \% or loss \%} = \frac{y}{x-y} \times 100$$

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