Discount

It is defined as the amount of rebate given on a fixed price (called as Market Price) of an Item.

Discount = Market Price - Selling Price.

discount, offer.

~~CP~~ Market Price ✓ SP ✓

$$\text{Discount \%} = \frac{(MP - SP)}{MP} \times 100$$

Eg:-

Land (item)

Year : 2001

25,000 (CP)

2022

5,00,000 MP

Sold - 4,00,000 SP

$D = 5,00,000 - 4,00,000$

$= 1,00,000$ - offer.

Formula

$$\text{Discount \%} \times MP = MP(100) - SP(100)$$

$$SP(100) = MP(100) - MP(D)$$

$$SP = \frac{MP(100 - D)}{100}$$

$$SP(100) = MP(100 - D)$$

$$MP = \frac{SP \times 100}{100 - D}$$

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Single Equivalent Discount

(Successive Discount) — Single Equivalent Discount

Q.P

Value — Percentage

- Traditional Method — $a+b-\frac{ab}{100}$
- Normal Method ✓
- formula Method

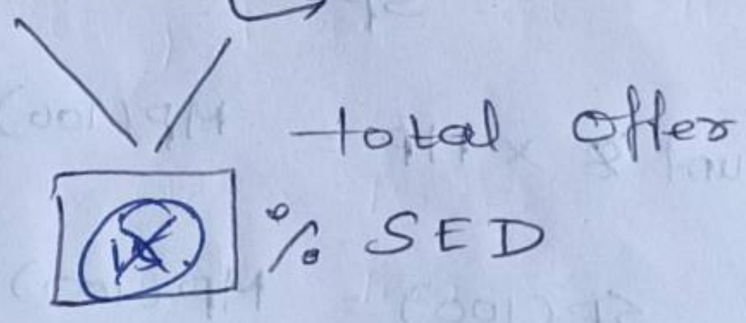
$$a+b-\frac{ab}{100}$$

Book Shop

to buy book - Rs 200.

offer = 10% 5% — Successive Discount.

(bargaining offer)



Example :-

Book Price = Rs 200

Seller Successive Discount = 10%, 5%

Selling Price = ?

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Traditional Method :-

Book rate = $200 \times \frac{10}{100} = 20$

$= 200 - 20$

$= 180$

$\Rightarrow 180 \times \frac{5}{100} = 9$

$= 171 \ (180 - 9)$

SP = Rs 171

Discount = 20 + 9 = 29

Normal Method

B.R x offer

$= 200 \times \frac{90}{100} \times \frac{95}{100}$ (19, 180)

(100% - 10%) (100 - 5%)

P P

$= 19 \times 9 = \boxed{171}$

D = 200 - 171

= 29.

formula

$a + b - \frac{ab}{100}$ $\quad a = 1^{st} D$ $\quad b = 2^{nd} D$

% → $10 + 5 - \frac{50}{100}$: $15 - \frac{50}{100}$ (1, 2) : $\frac{15}{100}$ → $15 - 0.5$

Easier.

$D = \frac{14.5}{100} \times 200$

$D = 29.0$

SP = 200 - 29

= (171)

= 14.5 % (or) 10% & 5%

SED ⌄ Same.

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The Marked Price of an article is Rs 500. It is sold at successive discounts of 20% and 10%. The selling price of the article is?

MP = 500

Successive Discount = 20% 10%

$SP = 500 \times \frac{8\cancel{0}}{10\cancel{0}} \times \frac{9\cancel{0}}{10\cancel{0}}$

$= 5 \times 8 \times 9 = 40 \times 9 = 360$

SP = 360

Discount = MP - SP = 500 - 360 = 140

The selling price of the article is 360

An item is marked for Rs 240 for sale. If two successive discount of 10% and 5% are allowed on the sale price, the selling price of the article is

$SP = \cancel{24\cancel{0}}^{12} \times \frac{9\cancel{0}}{10\cancel{0}} \times \frac{95}{\cancel{100}}$

$= \frac{6 \times 9 \times 19}{5} = \frac{171 \times 6}{5} = \frac{1026}{5}$

$10 + 5 + \frac{50}{100}$

$100 - 85.5$

D = 14.5% 85.5

$SP = \cancel{24\cancel{0}}^{12} \times \frac{17.1}{\cancel{85.5}}$

$= 17.1 \times 12$

$= 205.2$

$= 205\frac{1}{5} = 205.2$

$= 240 - 205.2$

=

SP 20% & 10%

SED 28%

$\frac{19 \times 9}{171}$ 6

205

5 | 1026

10↓

26

25

1

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A single discount equivalent to successive discounts of 10%, 20% and 25% is

S E D = $\frac{90}{100} \times \frac{80}{100} \times \frac{75}{100}$ = 0.54 = 100 - 54 = 46%

Best solution is formula Method

10 % 20 % 25 %

Stage 1 $10 + 20 - \frac{200}{100}$

$30 - 2$

28 %

stage 2 $28 + 25 - \frac{28 \times 25}{100}$

$53 - \frac{700}{100}$

46 %

List Price of an article at a show room is Rs 2000 and it is being sold at successive discount of 20% and 10%. Its selling price will be ? 1440

$SP = 2000 \times \frac{80}{100} \times \frac{90}{100}$

$= 20 \times 72$

$= 1440$

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Normal

The Market Price of a watch is Rs 800. A shopkeeper gives you two successive discounts and sells the watch at Rs 612. If the first discount is 10%. The second discount is

Sol

MP = 800

1st D = 10%

2nd D = ?

SP = 612

$800 \times \frac{90}{100} \times \frac{100-x}{100} = 612$

$100 - x = \frac{612 \times 10}{8 \times 9}$

$100 - x = 17 \times 5$

$100 - x = 85$

$x = 100 - 85$

$x = 15\%$

∴ Second discount is 15%

The price of a clock is Rs 160. The customer buys it for Rs 122.40 after two successive discounts. If the second discount is 15%. then the first discount is

$160 \times \frac{100-x}{100} \times \frac{85}{100} = 122.40$

$100 - x = \frac{122.40 \times 25}{17 \times 2}$

$= \frac{122.40 \times 25}{61.20}$

$= \frac{1530}{17} = 90$

$100 - x = \frac{12240 \times 10}{16 \times 85}$

$100 - x = 90$

$100 - x = 90$

$x = 100 - 90$

$x = 10\%$

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The Market Price of a piano was Rs 15000. The Customer buys it for Rs 9720 after three successive Discounts of 20%, 10% and x% respectively on it. Then the 3rd discount is?

$$15,000 \times \frac{80}{100} \times \frac{90}{100} \times \frac{100-x}{100} = 9720$$

$$100-x = \frac{9720 \times 100}{15 \times 8 \times 9}$$

$$100-x = 45 \times 2$$

$$100-x = 90$$

$$x = 100-90 = 10\%.$$

∴ The third discount is 10%.

A book was sold for Rs 6300 after giving two successive discounts of 12½% and 10%. Find the Market Prize.

$$SP = 6300$$

$$x \times \frac{100-\frac{25}{2}}{100} \times \frac{90}{100} = 6300$$

Don't Convert to decimal

$$x \times \frac{\frac{200-25}{2}}{100} \times \frac{90}{100} = 6300$$

$$\frac{175}{2} \times \frac{1}{100}$$

$$x \times \frac{175}{200} \times \frac{90}{100} = 6300$$

$$x = \frac{6300 \times 10 \times 40}{35 \times 9}$$

$$x = 200 \times 40 = 8000$$

$$MP = 8000.$$

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A shopkeeper gives two successive discount on an article marked Rs 450. The 1st discount is 10%. If the Customer Pays Rs 344.25 for the article. The second discount is

Ans = 15%

Profit / Loss Percentage.

A shopkeeper marks his watch at 20% above the cost price and allows the Purchaser a discount of 10% of cash buying. What Profit Percent does he Make.

$a + b + \frac{ab}{100}$

+P −L

MP = C.P + 20%

D = 10%

P/L = ?

CP = 100%

MP = 120% } 12RS

D = 10%

P/L = ?

SP% = 120% − 10%

a = MP =

$= 20 - 10 - \frac{200}{100}$

$= 20 - 12 = 8\%$

$\therefore$ Profit = 8%

$\frac{120}{12} - 12$

$= 108\%$

P = 100 − 108

P = 8%

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A trade man Marks his goods at 20% above the Cost Price. He allows his Customer a discount of 8% on Market Price. Find out the Profit Per cent

CP = 100%

MP = 120%

D = 8%

Profit % ?

CP	MP	D	P %
100	120%	8%	?

1·2 × 8

9.6

SP = 120 − 9.6

SP = 110.4

P = 10.4 %

Formula

$$\frac{MP(MP-CP)}{=} \quad \frac{D}{=} \quad a + b + \frac{ab}{100}$$

$$20 - 8 - \frac{160}{100}$$

20 − 8 − 1.6

20 − 9.6

= 10.4

A Shopkeeper marks the Price of an item keeping 20% a discount of 12(½)% Profit. if he offers on the Marked Price, his gain Percentage is

$$a + b + \frac{ab}{100}$$

$$20 - \frac{25}{2} + \frac{20 \times -\frac{25}{2}}{100}$$

$$20 - \frac{25}{2} - \frac{250}{100} \quad = 20 - 12.5 - 2.5$$

$$= 20 - 15$$

$$= 5\%$$

∴ gain % = 5%

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A trade man marks his goods 10% above the cost price. If he allow his customer 10% discount on the marked price, how much Profit or loss does he make.

CP	MP	D	P/L %
100%.	110%.	10%.	

Rs 11

$SP = 110 - 11 = 99$

Loss = 1%

or

−1%

$a + b + \frac{ab}{100}$

$10 + 10 - \frac{100}{100} \times 1$

$10 - 10 - 1$

$10 - 11$

$= -1\%$

$110 - 11$

How much hike?

To gain 8% after allowing a discount of 10% by what percent cost price should be hikes in the list price.

$$a + b + \frac{ab}{100} = P/L\ \%$$

CP	M.P	D	P/L
100%.	?	10%.	P 8%.

CP	MP	D	P/L
100%.	?	10%.	gives

how much hike

$$x - 10 - \frac{10x}{100} = 8$$

$$\frac{100x - 1000 - 10x}{100} = 8$$

$$100x - 1000 - 10x = 800$$

$$90x = 800 + 1000$$

$$90x = 1800$$

$$x = \frac{1800}{90}$$

$$x = 20\%.$$

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A Merchant allows a discount of 10% on Marked Price for the Cash payment. To make a Profit of 17% he must Mark his good higher than their cost Price by

CP	MP	D	P%
100	?	10%	17%

$$a+b+\frac{ab}{100} = P\%$$

$$x+10-\frac{10x}{100} = 17$$

$$100x-1000-10x = 1700$$

$$90x = 1700+1000$$

$$90x = 2700$$

$$x = \frac{2700}{90} = 30\%$$

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