



SpeedLabs

MATHS

ICSE 8th

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1. Ranjit purchased a big box for Rs. 5248 and paid Rs. 127 for its transportation. He sold it for Rs. 6020, Find in gain and loss percentage?

Ans. Total C.P. = 5248+127 = 5375 Rs.

S.P. = 6020 Rs.

$$\text{gain\%} = \left(\frac{6020 - 5375}{5375} \right) \times 100 = 12\%$$

2. Ahmed purchased an old scooter for Rs. 14625 and spent Rs. 3225 on its repair. Then he sold it for Rs.16422. find his gain or loss%?

Ans. C.P. = 14625 + 3225 = 17850 Rs.

S.P. = 16422 Rs.

$$\text{loss\%} = \left(\frac{17850 - 16422}{17850} \right) \times 100 = 8\%$$

3. A man buys two cricket bats, one for Rs.1360 and the other for Rs. 1040. He sells the first bat at a gain of 15% and the second bat at a loss of 15%. Find his gain or loss on entire transaction?

Ans. C.P. of first bat = 1360 Rs.

$$\text{S.P. of first bat} = 1360 \left(1 + \frac{15}{100} \right) = 1564 \text{ Rs}$$

C.P. of 2nd bat = 1040 Rs.

$$\text{S.P. of 2nd bat} = 1040 \left(1 - \frac{15}{100} \right) = 884 \text{ Rs.}$$

Total C.P. = 1360 + 1040 = 2400 Rs.

Total S.P. = 1564 + 884 = 2448 Rs.

$$\text{Hence gain\%} = \frac{2448 - 2400}{2400} \times 100 = 2\%$$

4. A Sells a cycle to B at a Profit of 20% and B Sells it to C at a Profit of 5%. If C pays Rs.3780, What did A Pay for it?

Ans. Let C.P. of A = x

Then, S.P. of A = C.P. of B = 1.2 x

S.P. of B = (1.2x) times (1.05) = 1.26x

Therefore,

$$1.26 x = 3780$$

$$x = 3000$$

Hence A Paid Rs. 3000 for the cycle.

5. A Sold a watch to B at 12% gain and B had to sell it to Manu at a loss of 5%. If C Paid Rs. 5320 then how much did A Pay?

Ans. Let C.P. of A = x

$$\text{C.P. of B} = 1.12x$$

$$\text{Then, S.P. of A} = \text{C.P. of B} = 1.2x$$

$$\text{S.P. of B} = (1.12x) \times (0.95) = 1.064x$$

Therefore

$$1.064x = 5320$$

$$x = 5000$$

Hence A Paid Rs.5000 for the Watch

6. A Grocer Purchase 80 kg of Rice at Rs.27/Kg and mixed it with 120 kg of rice purchased at Rs. 32/kg. At what rate per kg should he sell the mixture to gain 16%?

Ans. Let Total C.P. = 80 times 27 + 120 times 32 = 6000

$$\text{For 16\% gain Total S.P.} = \left(\frac{100+16}{100} \right) \times 6000$$

$$\text{Total Quantity} = 80 + 120 = 200 \text{ kg}$$

$$\text{Hence S.P. per kg} = \frac{6960}{200} = 34.8 \text{Rs. / kg}$$

7. A Bought two bags for Rs. 1150 each. A the sold one of them at a gain of 6% and the other at a loss of 2%. How much did A Gain?

Ans. Total C.P. = 1150 times 2 = 2300 Rs.

$$\text{Total S.P.} = \left(\frac{100+6}{100} \right) \times 1150 + \left(\frac{100-2}{100} \right) \times 1150$$

$$= 1219 + 1127 = 2346 \text{ Rs.}$$

$$\text{Gain\%} = \left(\frac{2346 - 2300}{2300} \right) \times 100 = 2\%$$

8. A trader purchased a wall clock and a watch for a sum of Rs.5070. He sold them making a profit of 10% on the wall clock and 15% on the watch he earns Rs.699.50. Find the cost price of the wall clock and that of the watch.

Ans. Let the C.P. of wall clock = x

$$\text{Let the C.P. of watch} = y$$

Therefore,

$$x + y = 5070$$

$$\text{Also } 1.1x + 1.15y = 5070 + 669.5 = 5739.5$$

Solving for x and y we get

$$x = 1820 \text{ Rs. } Y = 3250 \text{ Rs.}$$

Hence Cost of Wall Clock = 1820 Rs. and Cost of Watch = 3250 Rs.

9. Toffees are bought at 15 for Rs.20. How many toffees would be sold for Rs.20 so as to gain 25%?

Ans. C.P. of 15 Toffees = Rs.20

$$\text{Therefore, C.P. of 1 Toffee} = \frac{25}{15} \text{ Rs.}$$

$$\text{For 25\% gain, S.P. of 1 Toffee} = \frac{20}{15} \times 1.25 = \frac{25}{15} \text{ Rs.}$$

Therefore, number of toffees that you can sell in 20 Rs

$$= \frac{20}{25/15} = \frac{20 \times 15}{25} = 12 \text{ Toffees}$$

10. Two-thirds of a consignment was sold at a profit of 5% and the remaining at a loss of 2%. If the total profit was Rs.4000, Find the value at which the consignment was purchase?

Ans. Let the C.P. of Consignment = x

Therefore,

$$\frac{2}{3}x \times 1.05 + \frac{1}{3}x \times 0.98 = x + 4000$$

$$\frac{70}{100}x + \frac{98}{300}x = x + 4000$$

$$\frac{8}{100}x = 4000 \text{ or } x = 50000 \text{ Rs.}$$

11. Find the rate of discount being given on mini toy-gun whose selling price is Rs.345 after deducting a discount being given on a mini toy-gun whose selling price is Rs. 345 after deducting a discount of Rs.30 on its marked price?

Ans. Selling Price of a mini toy gun = Rs. 345

Discount = Rs.30

Marked Price = Selling Price + Discount

$$= \text{Rs.}345 + \text{Rs.}30$$

$$= \text{Rs.}375$$

12. A calculator was bought for Rs.435 after getting a discount of 13%. Find the marked price of the calculator?

Ans. Purchase Price of the calculator = Selling Price of the calculator = Rs. 435

Discount = 13% on the marked price

Let Marked Price = Rs. x

$$\text{Discount} = \frac{13}{100}x$$

$$\text{M.P.} = \text{S.P.} + \text{Discount}$$

$$x = 435 + \frac{13}{100}x$$

$$\text{or } x - \frac{13}{100}x = 435$$

$$\text{or } \frac{87}{100}x = 435$$

$$\text{or } x = \frac{435 \times 100}{87} = 500$$

Marked price of the calculate = Rs.500

13. A dealer marked his goods 35% above cost price and allowed a discount of 20% on the market price. Find his gain or loss per cent?

Ans. Let Cost Price = Rs. x

$$\text{Marked price} = x + \frac{35}{100}x = \frac{135}{100}x$$

$$\text{Discount} = 20\% \text{ on M.P.} = \left(\frac{20}{100}\right) \times \left(\frac{135}{100}\right)x$$

$$\text{S.P.} = \text{M.P.} - \text{Discount} = \frac{135}{100}x - \frac{20}{100} \times \frac{135}{100}x = \frac{80}{100} \times \frac{135}{100}x$$

$$\text{Profit} = \text{S.P.} - \text{Cost Price} = \frac{80 \times 135}{100 \times 100}x - x = 1.08x - x = 0.08x$$

$$\% \text{ age profit} = \frac{\text{profit}}{\text{C.P.}} \times 100 = \frac{0.08x}{x} \times 100 = 8\%$$

14. Find a single discount equivalent to three successive discounts of 20%, 5% and 1%?

Ans. Let the M.P. of an article in Rs. 100

It discounts on it is = 20% of Rs.100 = Rs. 20

Reduced price after the its discount = Rs.100 - 20 = Rs. 80

Second discount on it = 5%

Price after second discount = Rs. 80 - 4 = Rs. 76

Third discount on it is 1% of Rs. 76 = $\frac{1}{100} \times 76 = 0.76$

Price after Third discount = Rs.76 - 0.76 = Rs. 75.24

S.P. of the article = Rs. 75.24

Thus, net discount on M.P. of Rs.100 in Rs. 24.76

Single discount equivalent to given successive discounts = 24.76%

15. Find a single discount equivalent to two successive discounts of 40% and 5%?

Ans. Let the M.P. of an article is Rs.100

Discount on it is = 40% of Rs. 100 = Rs. 40

Reduced Price after first discount = Rs. (100 - 40) = Rs. 60

Next Discount is = 5% of Rs. 60

$$\text{Rs.} \left(\frac{5}{100} \times 60 \right) = \text{Rs.} 3$$

Price after second Discount = Rs. (60-3) = Rs. 57

That is S.P. = Rs. 57

Net Discount = M.P. - S.P. = Rs. 100 - 57 = Rs. 43

Thus, net discount on MP. of Rs. 100 is Rs. 43.

Single discount equivalent to given successive discounts = 43%