

Answer the questions

- (1) A shopkeeper gives 10% discount on all items. If the discounted price of a dining table is Rs.18000, find the original price of the dining table.
- (2) If 600 glasses are bought at the rate of Rs.12 each, and 480 are sold at rate of Rs.15 each. Find the overall profit/loss.
- (3) A shopkeeper sold a racket at a loss of 21%. Had he sold it for Rs. 27 more, he would have gained 6%. Find the cost price of racket.
- (4) Aditya sells his two cycles at the rate of Rs. 5 hundreds each. On one cycle he gains 6% while on other cycle he incurs a loss of 6%. Find his total loss/gain in whole transaction.
- (5) A shopkeeper mixes two varieties of rice in ratio 3:1. The first variety costs Rs.32 per kg, while other costs 36 per kg. If the mixed rice is sold at price of 28.05 per kg. Find the profit/loss incurred by shopkeeper.
- (6) A shopkeeper sells two quality of tea at rate of Rs. 33 per kg. and Rs. 30 per kg, gaining 10% and 20% profit respectively. If he mixes the two varieties in the ratio 3:2 and sells the mixture at Rs. 21 per kg., what is his gain or loss?

Choose correct answer(s) from given choice

- (7) Due to 5% discount offered by a shop, price of a mobile phone reduces by Rs. 185. Find the discounted price of mobile phone.

a. Rs. 3866	b. Rs. 2812
c. Rs. 3515	d. Rs. 4218
- (8) Sita purchased 240 glasses for her shop at Rs.8 each. During transportation 24 glasses got damaged, and she sold remaining glasses at price of Rs.12 each. Find overall profit/loss in %.

a. 30% profit	b. 35% profit
c. 45% profit	d. 40% profit

Fill in the blanks

- (9) A shopkeeper buys 10 dining tables for Rs. 150000. If he sells them for a profit of 5%, the selling price of one dining table = Rs. .
- (10) A shopkeeper provides two successive discount of 25% and 40% on selling an article. If the selling price is Rs. 180, the marked price of the article = Rs. .



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Answers

(1) Rs. 20000

Step 1

Let us assume the original price of the dining table is x .

Step 2

The discount given by the shopkeeper on all items = 10%.

Thus, the discounted price of the dining table = $x - x \times \frac{10}{100}$

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

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

$$= \frac{90x}{100}$$

Step 3

According to the question, the discounted price of the dining table = Rs.18000.

$$\text{Therefore, } \frac{90x}{100} = 18000$$

$$\Rightarrow x = \frac{18000 \times 100}{90}$$

$$\Rightarrow x = 20000$$

Step 4

Therefore, the original price of the dining table is **Rs.20000**.

(2) No profit and no loss

Step 1

According to the question, 600 glasses are bought at the rate of Rs.12 each.

Cost Price, C.P. = $600 \times 12 = \text{Rs.}7200$

Step 2

Also, 480 are sold at the rate of Rs.15 each.

Selling Price, S.P. = $480 \times 15 = \text{Rs.}7200$

Step 3

Since both cost price and selling price are equal, thus there is no profit and no loss

Step 4

Therefore, there is **no profit and no loss**.

(3) Rs. 100

Step 1

Lets assume the cost price of toy is Rs. x .

Step 2

If you read the question carefully, you will notice that the shopkeeper sold a racket at a loss of 21%.

$$\text{or loss} = x \times \frac{21}{100}$$

Step 3

$$\text{The sale price of racket} = \text{cost price of toy} - \text{loss} = x - x \times \frac{21}{100}$$

Step 4

If he sold it for Rs. 27 more, he would have gained 6%,

$$\text{The sale price of racket} = x - x \times \frac{21}{100} + 27 \text{ -----(1)}$$

$$\text{Gain} = x \times \frac{6}{100}$$

Step 5

$$\text{Now the sale price of racket} = \text{cost price of racket} + \text{gain} = x + x \times \frac{6}{100} \text{ -----(2)}$$

Step 6

By comparing equation (1) and (2), LHS(Left Hand Side) are equal therefore the RHS(Right Hand Side) are also equal

$$x + x \times \frac{6}{100} = x - x \times \frac{21}{100} + 27$$

$$\Rightarrow x + \frac{6x}{100} - x + \frac{21x}{100} = 27$$

$$\Rightarrow \frac{6x}{100} + \frac{21x}{100} = 27$$

$$\Rightarrow \frac{6x + 21x}{100} = 27$$

$$\Rightarrow 27x = 100 \times 27$$

$$\Rightarrow x = \frac{2700}{27}$$

$$\Rightarrow x = 100$$

Step 7

Therefore the cost price of racket is Rs. 100.

(5) 15% loss**Step 1**

Since ratio of two variants of rices is in ration 3:1, lets assume that shopkeeper bought 3p and p kgs of two variants respectively

Step 2

Cost Price, C.P. = $(3p \times 32) + (p \times 36) = 132p$

Selling price, S.P. = $(3p + p) \times 28.05 = 112.2p$

Step 3

Loss = Cost Price - Selling Price

$$= 132p - 112.2p$$

$$= 19.8p$$

Step 4

$$\text{Loss \%} = \left(\frac{\text{Loss}}{\text{C.P.}} \times 100 \right)$$

$$= \left(\frac{19.8p}{132p} \times 100 \right)$$

$$= 15$$

Step 5

Therefore, the loss is **15%**.

(6) 25% loss

(7) c. Rs. 3515

Step 1

Let us assume the price of a mobile phone is **x**.

Step 2

Discount offered = 5% of x

$$= \frac{5 \times x}{100}$$

$$= \frac{5x}{100}$$

Step 3

According to the question, the price of the mobile phone reduces by Rs.185.

Therefore,

$$\frac{5x}{100} = 185$$

$$\Rightarrow x = \frac{185 \times 100}{5}$$

$$\Rightarrow x = 3700$$

Reduced price = Original Price - Price Reduces

$$= 3700 - 185$$

$$= 3515$$

Step 4

Therefore, the discounted price of mobile phone is **Rs.3515**.

(8) b. 35% profit**Step 1**

According to the question, Sita purchased 240 glasses for her shop at Rs.8 each.

Cost Price, **CP** = $240 \times 8 = \text{Rs.}1920$

Step 2

During transportation 24 glasses got damaged.

Remaining glasses = $240 - 24 = 216$

Step 3

She sold remaining 216 glasses at price of Rs.12 each.

Selling price, **SP** = $216 \times 12 = \text{Rs.}2592$

Step 4

Profit = $\text{SP} - \text{CP}$

= $2592 - 1920$

= $\text{Rs.}672$

Step 5

$$\text{Profit \%} = \frac{\text{Profit} \times 100}{\text{CP}}$$

$$= \frac{672 \times 100}{1920}$$

$$= \frac{67200}{1920}$$

= 35

Step 6

Therefore, there is **35% profit**.

(9)

15750

Step 1

The cost price of 10 dining tables = Rs.150000.

The cost price of 1 dining table = $\frac{150000}{10}$ = Rs.15000.

Step 2

According to the question, the shopkeeper makes 5% profit on selling of dining tables.

We know that, selling price = $\frac{100 + \text{profit}\%}{100} \times \text{cost price}$

$$= \frac{100 + 5}{100} \times 15000$$

$$= \frac{105}{100} \times 15000$$

$$= 15750$$

Step 3

Therefore, the selling price of one dining table is **Rs.15750**.

(10) 400

Step 1

Let the marked price of the article be **x**.

Step 2

According to the question, shopkeeper provides two successive discount of 25% and 40% on selling an article.

% Selling price for a discount of 25% = $100 - 25 = 75\%$,

Similarity, % Selling price for a discount of 40% = $100 - 40 = 60\%$

Step 3

Now selling price will be 60% of 75% of cost price. i.e.,

60% of 75% of $x = 180$

$$\Rightarrow 60\% \text{ of } \left(\frac{75x}{100} \right) = 180$$

$$\Rightarrow \frac{60 \times 75 \times x}{100 \times 100} = 180$$

$$\Rightarrow x = \frac{180 \times 100 \times 100}{60 \times 75}$$

$$\Rightarrow x = \text{Rs.}400$$

Step 4

Therefore, the marked price of the article is **Rs.400**.