9. Discount and Commission

1. In an exhibition, Meena purchased the following items from a shop of Bachat groups.

(i) 2 sarees, Rs. 425 each

(ii) 4 kurtis, Rs. 320 each

On the purchase, she received a rebate of 10 %, then what is the total amount of rebate ? How much amount Meena has to pay ?

Solution : Cost of 2 sarees $= 2 \times 425 =$ Rs. 850

Cost of 4 kurtis $= 4 \times 320 =$ Rs. 1280

$\therefore$ Total cost of the items purchased $= 850 + 1280$

$=$ Rs. 2130

Rebate received on purchase = 10 %

$\therefore$ Total rebate received $= 2130 \times \frac{10}{100} =$ Rs. 213

$\therefore$ The amount Meena has to pay = Total cost $-$ Rebate

$= 2130 - 213$

$= 1917$

$\therefore$ (i) Total amount of rebate : Rs. 213

(ii) Meena has to pay : Rs. 1917

2. The following items were purchased by Rasik Bhai form the shop of Gramudyog Mandal.

(i) 12 gandhi caps for Rs. 15 each

(ii) 3 towels for Rs. 110 each

(iii) 2 dhotis for Rs. 370 each

12 % rebate was given on this purchase. How much total amount did Rasik Bhai pay ?

Solution : Cost of 12 gandhi caps $= 12 \times 15 =$ Rs. 180

Cost of 3 towels $= 3 \times 370 =$ Rs. 740

Cost of 2 dhotis $= 2 \times 110 =$ Rs. 330

∴ Total cost of the items purchased

$$= 180 + 740 + 330 = \text{Rs. } 1250$$

Rebate received on purchase = 12 %

∴ Total rebate received $= 1250 \times \frac{12}{100}$

$$= \frac{1250 \times 12}{100}$$

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

$$= 150$$

∴ Total amount Rasik Bhai has to pay

= Total cost of the item purchased − Total rebate

$= 1250 - 150 = 1100$

∴ Rasik Bhai got these items for Rs. 1100

3. Mohit purchased following items from the Khadi Bhandar :

(i) 2 wooden flower pots for Rs. 160 each (15 % rebate was given on it)

(ii) 4 bamboo items for Rs. 210 each (18 % rebate was given on it)

(iii) 3 idols for Rs. 275 each (20 % rebate was given on it)

Find the total amount of rebate and the amount paid by Mohit to purchase all items.

Solution :

Cost of 2 wooden flower pots $= 2 \times 160$ = Rs. 320

Cost of 4 bamboo items $= 4 \times 210$ = Rs. 840

Cost of 3 idols $= 3 \times 275$ = Rs. 825

Total cost of the items purchased $= 320 + 840 + 825$

= Rs. 1985

(i) Rebate received on wooden flower pots = 15 %

$\therefore 320 \times \frac{15}{100} = \frac{4800}{100} =$ Rs. 48

(ii) Rebate received on bamboo items = 18 %

$\therefore 840 \times \frac{18}{100} = \frac{15120}{100} =$ Rs. 151.20

(iii) Rebate received on idols = 20 %

$\therefore 825 \times \frac{20}{100} = \frac{16500}{100} =$ Rs. 165

$\therefore$ Total rebate received on all items $= 48 + 151.20 + 165$

$= RS.364.20$

Total amount paid by Mohit = Total cost of the items purchased $-$ Total rebate

$= 1985 - 364.20 = RS.1620.80$

$\therefore$ The amount paid by Mohit to purchase all items is Rs. 1620.80.

4. The 16 % rebate on khadi cloth was announced at the time of Gandhi Jayanti. Bandopant purchased following items.

(i) 3 blankets for Rs. 475 each

(ii) 4 Panchas for Rs. 75 each

(iii) 15 handker chief's for Rs. 23 each. Then how much rebate was received by Bandopnat in this deal ? How much did all items cost ?

Solution : Cost of 3 blankets $= 3 \times 475 = \text{RS}.1425$

Cost of 4 Pancha's $= 4 \times 75 = \text{RS}.300$

Cost of 15 handker chief's $= 15 \times 23 = \text{RS}.345$

∴ Total cost of the items purchased

$= 1425 + 300 + 345 = \text{Rs}.2070$

Rebate received on purchase = 16 %

$$= 2070 \times \frac{16}{100}$$

$$= \frac{33120}{100}$$

$$= 331.20$$

The amount paid by Bandopant = Total cost of the items purchased − Rebate

$= 2070 - 331.20 = \text{Rs}.1738.80$

(i) Bandopant received Rs. 331.20 rebate in this deal.

(ii) Bandopant received all items in 1738.80 rupees.

5. Anandrao purchased 2 towels for Rs. 120 each, 3 shirts for Rs. 310 each and 3 pants for Rs. 420 each. For this he paid Rs. 1944 to the shopkeeper. Then find the amount of rebate and the percentage of rebate.

Solution : Cost of 2 towels $= 2 \times 120 = \text{Rs. } 240$

Cost of 3 shirts $= 3 \times 310 = \text{Rs. } 930$

Cost of 3 pants $= 3 \times 420 = \text{Rs. } 1260$

∴ Cost of total items purchased

$= 240 + 930 + 1260 = \text{Rs. } 2430$

Rebate received on purchase = Cost of total items purchased − Amount given to shopkeeper

$= 2430 - 1944 = \text{Rs. } 486$

$$\text{Percent discount} = \frac{\text{Rebate}}{\text{Marked price}} \times 100$$

$$= \frac{486}{2430} \times 100$$

$$= 20$$

∴ (i) Received Rs. 486 amount of rebate.

(ii) The rate of rebate was 20 %.

6. Sopanrao sold 50 quintal Tur dal at the rate of Rs. 3500 per quintal. By giving 2. 5 % commission to the agent. How much total rupees will be received by Sopanrao after selling Tur dal.

Solution :

Cost of Tur dal sold by Sopanrao $= 50 \times 3500$

$= \text{Rs. } 1,75,000$

Commission rate = 2.5 %

$\therefore$ **Commission = Selling price** $-$ **Commission in percentage**

$$= 175000 \times \frac{2.5}{100}$$

$$= 1750 \times 2.5$$

$$= \text{Rs. } 4375$$

Amount received by Sopanrao from the sell

$= 175000 - 4375 = \text{RS. } 170625$

$\therefore$ **Sopanrao will receive total Rs. 170625 of the sell.**

7. A shepherd bought 15 goats for Rs. 6500 each. In this deal broker receive

d 3 % rate of commission. How much commission was

paid by shepherd ? For how much rupees the shepherd purchased the goats ?

Solution : Cost of 15 goats $= 15 \times 6500 = \text{Rs.}\, 97500$

Commission rate $= 3\ \%$

$\therefore$ Commission = Price $\times$ Commission rate

$$= 97500 \times \frac{3}{100}$$

$$= 975 \times 3$$

$$= 2975$$

Amount given by shepherd = Price of goats + Commission

$$= 97500 + 2975$$

$$= \text{Rs.}\, 1,00,425$$

$\therefore$ (i) Shepherd gave Rs. 2925 commission to Broker.

(ii) The shepherd purchased the goats for Rs. 1,00,425

8. Meghna sold her bungalow for Rs. 85,00,000 through an agent. Agent has charged 2.5 % commission from both of them. Find the total commission received by agent. How much rupees were received by Meghna after selling bungalow.

Solution : Price of bungalow = 85,00,000

Commission rate = 2. 5 %

Commission = price of bungalow × commission rate (%)

$$= 85,00,000 \times \frac{2.5}{100}$$

$$= 85,00,000 \times \frac{25}{1000}$$

$$= 8500 \times 25$$

$$= \text{Rs. } 212500$$

Commission received from both $= 212500 + 212500$

$$= \text{Rs. } 425000$$

Amount received by selling bungalow

$$= 85,00,000 - 212500$$

$$= 8,287,500$$

∴ (i) Broker received Rs. 4,25,000 commission.

(ii) Meghna received Rs. 8,287,500 by selling bungalow.

9. A shopkeeper receives commission in following way 1.5 % upto Rs. 50,000 sell, 2.5 % above Rs. 50,000 but upto Rs. 75,000 sell and 3.5 % commission above Rs. 75,000 sell is received. If the sale is 85,000 in a month then how much commission will the shopkeeper received ?

Solution : First sale $= \text{Rs. } 50,000$

Commission rate upto the sale of Rs. 50,000 = 1.5 %

Commission received up to the sale of Rs. 50,000

= First sale × Commission rate upto the first sale

$$= 50,000 \times \frac{1.5}{100}$$

$$= 50,000 \times \frac{15}{1000}$$

$$= 50 \times 15$$

$$= 750$$

Second sale = 75000 − 50000 = 25000

Commission rate upto the sale of Rs. 50,000 to Rs. 75,000

= 2.5 %

Commission received upto the sale of Rs. 50,000 to

Rs. 75,000

= Second sale × Commission rate upto the second sale

$$= 25000 \times \frac{2.5}{100}$$

$$= 25000 \times \frac{25}{1000}$$

$$= 625$$

∴ Third sale = Rs. 85,000 − Rs. 75,000 = Rs. 10,000

Commission rate of the sale above Rs. $75,000 = 3.5$ %

∴ Commission received on the sale above Rs. $75,000$

= Third sale × Commission rate of third sale

$$= 10,000 \times \frac{3.5}{100}$$

$$= 10,000 \times \frac{35}{1000}$$

= Rs. 350

Commission received on total sale = commission of first sale + commission of second sale + commission sale of third sale.

$$= 750 + 625 + 350 = \text{Rs. } 1725$$

∴ Commission received by shopkeeper on sale = Rs. 1725

10. The marked price of a product is Rs. 2650. The shopkeeper offered 15 % discount at first and 10 % discount after wards on the marked price. What will be the selling price of that product ?

Solution : Price of product = Rs. 2650

First, shopkeeper gave 15 % discount to customer.

∴ First, discount received on product $= 2650 \times \frac{15}{100}$

$$= \frac{265 \times 15}{10}$$

$$= 397.50$$

Reduced price of the product $= 2650 - 397.50$

$$= \text{Rs.}\, 2252.50$$

Second discount $= 10\ \%$

Second discount received on product $= 2252.50 \times \frac{10}{100}$

$$= 225.25$$

Selling price of product = reduced price of product − second discount received on product

$\therefore$ **Selling price of product** $= 2252.50 - 225.25$

$$= 2027.25$$

$\therefore$ **Selling price of that product is** $\text{Rs.}\, 2027.25.$

11. Mira ordered a freeze online. The marked price of freeze is Rs. 27200. In offer, she received 12 % discount on freeze. For how much rupees Mira will get the freeze ?

Solution : Marked price of freeze $= \text{Rs.}\, 27,200$

Discount received in offer $= 12\ \%$

$\therefore$ **Discount received on freeze** $= 27200 \times \frac{12}{100}$

$$= 272 \times 12$$

$$= \text{Rs. } 3264$$

Selling price of freeze = Marked price − Discount

$$= 27200 - 3264$$

$$= \text{Rs. } 23936$$

∴ Mira will get a freeze for Rs. 23936.

12. A shopkeeper saves 25 % of his income. A shopkeeper receives 12 % commission on his sale. If the shopkeeper does sale of Rs. 3,20,000 in a month then how much rupees of shopkeeper will be saved in that month ?

Solution : Total sell = Rs. 3,20,000

Commission rate = 12 %

$$\text{Commission on sell} = 3,20,000 \times \frac{12}{100}$$

$$= \text{Rs. } 38400$$

Commission on sell = Income

Saving = 25 % of income

$$\text{Saving} = 38{,}400 \times \frac{25}{100}$$

$$= 384 \times 25$$

$= 9600$

∴ The shopkeeper saved Rs. 9600 in that month.

13. From a 'Handloom stores' , Sharadatai purchased the following items :-

4 curtains for Rs. 185 each, 5 decorative items for Rs. 135 each. On the purchase he received a rebate of 20 %. So what is the total amount of rebate ?

Cost of 4 curtains $= 4 \times \square = \text{Rs.}\square$

Cost of 5 decorative items $= 5 \times \square = \text{Rs.}\square$

∴ Total cost of items purchased $= \square + \square = \text{Rs.}\square$

∴ Rate of rebate $= \square$

∴ Rebate received = rebate % $\times \square$

$= \frac{20}{100} \times \square = \text{Rs.}\square$

∴ Amount of rebate received by Sharadatai Rs. $\square$

Solution : Cost of 4 curtains $= 4 \times \boxed{185} = \text{Rs.}\boxed{740}$

Cost of 5 decorative items $= 5 \times \boxed{135} = \text{Rs.}\boxed{675}$

∴ Total cost of items purchased $= \boxed{740} + \boxed{675}$

$= \text{Rs.}\boxed{1415}$

∴ Rate of rebate = 20 %

∴ Rebate received = rebate % × Total cost

$$= \frac{20}{100} \times 1415$$

$$= \text{Rs. } 283$$

∴ Amount of rebate received by Sharadatai Rs. 283

14. Bajirao purchased a buffalo through an agent. Her price was decided at Rs. 22500. The commission was paid at rate of 2 %. How much amount he should pay in this deal ?

Complete the following activity :

Cost of buffalo = Rs. ☐

Commission rate = ☐

∴ Given commission = Commission in % × ☐

$$= \frac{20}{100} \times \square = \square$$

∴ Amount Bajirao has to pay = commission + ☐

$$= \square + \square$$

$$= \square$$

∴ The amount to be paid by Bajirao to buy the buffalo

Rs. ☐

Solution : Cost of buffalo = Rs. 22500

Commission rate = 2 %

∴ Commission given = Commission in % × Cost of bufflo

$$= \frac{2}{10} \times 22500$$

$$= \text{Rs. } 450$$

∴ The amount Bajirao has to pay = commission + Decided cost

$$= 450 + 22500$$

$$= \text{Rs. } 22950$$

∴ The amount to be paid by Bajirao to buy the buffalo Rs. 22950 .

15. The marked price of the medicines is Rs. 2880. A chemist purchased it for Rs. 2160. Find percentage of discount received by dealer.

Discount received by chemist = ☐ − ☐

= Rs. ☐

Let us assume % discount as x.

The discount on marked price of Rs. 2880 is Rs. $\square$

The discount on marked price of Rs. 100 is Rs. $\square$

$$\therefore \frac{2880}{100} = \frac{\square}{\square}$$

$$\therefore 2880 \times \square = 100 \times \square$$

$$\therefore \square = \frac{100 \times \square}{\square} = \square$$

$\therefore$ % discount received by chemist $= \square$

Solution : Discount received by chemist

$$= \boxed{2880} - \boxed{2160}$$

$$= \text{Rs.}\boxed{720}$$

Let us assume % discount as x.

The discount on marked price of Rs. 2880 is Rs. $\boxed{720}$

The discount on marked price of Rs. 100 is Rs. $\boxed{x}$

$$\therefore \frac{2880}{100} = \frac{\boxed{720}}{\boxed{x}}$$

$$\therefore 2880 \times \boxed{x} = 100 \times \boxed{720}$$

$$\therefore \boxed{x} = \frac{100 \times \boxed{720}}{\boxed{2880}} = \boxed{25}$$

$\therefore$ % discount received by chemist $= \boxed{25}$

16. Complete the following table :

Sr. No.	Marked price (Rupees)	Percentage discount	Selling price (Rupees)
(1)	33000	……	29040
(2)	2200	15	……
(3)	1200	……	900
(4)	……	20	1360

Answer :

(1) Marked price = Rs. 33000, Selling price = Rs. 29040,

Percentage discount = ?

Discount = Marked price − Selling price

$= 33000 - 29040$

$= \text{Rs. } 3960$

Percentage discount $= \frac{\text{discount}}{\text{Marked price}} \times 100$

$$= \frac{3960}{33000} \times 100 = \frac{396}{33} = 12$$

∴ Percentage discount = 12

(2) Marked price = Rs. 2200, % discount = 15, Selling Price = ?

$$\text{Discount} = \text{Marked price} \times \frac{\text{Percentage discount}}{100}$$

$$= 2200 \times \frac{15}{100}$$

$$= 22 \times 15$$

$$= 330$$

Selling price = Marked price – discount

$$= 2200 - 330$$

∴ Selling price = Rs. 1870

(3) Marked price = Rs. 1200, Selling price = Rs. 900,

Percentage discount = ?

Discount = Marked price − Selling price

$$= 1200 - 900$$

= Rs. 300

$$\text{Percentage discount} = \frac{\text{Discount}}{\text{Marked price}} \times 100$$

$$= \frac{300}{1200} \times 100$$

$$= \frac{3}{12} \times 100$$

$$= 0.25 \times 100$$

Percentage discount = 25

(4) Percentage discount = 20, Selling price = Rs. 1360,

Marked price = ?

Let us assume marked price as Rs. 100.

∴ Selling price = Marked price − Percentage discount

= 100 − 20

= 80

Marked price will be 100 when selling price is 80.

Let us assume marked price as x when selling price is 1360.

$$\therefore \frac{80}{100} = \frac{1360}{x}$$

$$\therefore x = \frac{1360 \times 100}{80}$$

$$= \frac{13600}{8}$$

$$= 1700$$

∴ Marked price = Rs. 1700

Given table :

Sr. No.	Marked price (Rupees)	Percentage discount	Selling price (Rupees)
(1)	33000	12	29040
(2)	2200	15	1870
(3)	1200	25	900
(4)	1700	20	1360

17. Solve the following questions.

(1) The price of a radio is Rs. 100. A shopkeeper sold 6 radios by giving 15 % discount. How much total discount did shopkeeper give ? How much is the selling price of radios ?

Solution : Marked price of radio = Rs. 100

$\therefore$ **Marked price of 6 radios** $= 6 \times 100 =$ **Rs.** 600

Discount received on marked price according to 15 %

$=$ **Marked price** $\times$ **Percentage discount**

$= 600 \times \frac{15}{100} = 90$

Selling price $=$ **Marked price** $-$ **Discount**

$= 600 - 90 = 510$

$\therefore$ **Selling price of 6 radios is Rs. 510.**

(2) The price of a laptop is Rs. 40,000. It was sold to the customer for Rs. 36,200. How much percent discount did the customer received ?

Solution : Marked price of laptop = Rs. 40,000

Selling price of laptop = Rs. 36,200

Discount = Marked price of laptop − Selling price of laptop

$$= 40000 - 36200 = \text{Rs. } 3800$$

$$\therefore \text{Percentage discount} = \frac{\text{Discount}}{\text{Marked price}} \times 100$$

$$= \frac{3800}{40{,}000} \times 100 = \frac{38}{4}$$

$$= 9.5$$

∴ Customer received 9.5 % discount on purchase of laptop.

(3) The selling price of a food processor is Rs. 4250. A shopkeeper gave 15 % discount on it. What will be the marked price of food processor ?

Solution : Percentage discount = 15

∴ Let us assume marked price as Rs. 100.

∴ Discount is Rs. 15 when marked price is Rs. 100

∴ Selling price when marked price is Rs. 100

$= 100 - 15 = 85$

∴ Marked price is Rs. 100 when selling price is Rs. 85.

Let marked price be x when selling price Rs. 4250 .

$\therefore \frac{85}{100} = \frac{4250}{x}$

$\therefore x = \frac{4250 \times 100}{85}$

$= \frac{850 \times 100}{17}$ ….. (dividing by 5)

$\therefore x = 5000$

∴ Marked price of food processor was Rs. 5000.

(4) Trimurti stores announced 25 % discount on the travelling bag. How much rupees did Sujit have to pay for the bag of Rs. 1540 marked price ?

Solution : Discount = 25 %

Marked price of travelling bag = Rs. 1540

Let's find the ratio, $\frac{\text{Discount}}{\text{Marked price}}$

Let us assume that discount on travelling bag is Rs. x

$\therefore \frac{x}{1540} = \frac{25}{100}$

$\therefore x = \frac{25 \times 1540}{100}$

$$= \frac{25 \times 154}{10}$$

$$= \text{Rs. } 385$$

∴ Total discount is Rs. 385.

Selling price = Marked price − Discount

$$= 1540 - 385$$

$$= 1155$$

∴ Sujit will get travelling bag for Rs. 1155.

(5) An agent received 6 % rate of commission on the sale of Rs. 25,000. How much commission will be receive ?

Solution : Sale done by agent = Rs. 25,000

Rate of commission = 6 %

Commission received on sale = Sale done by agent × Rate of commission

$$= 25000 \times \frac{6}{100}$$

$$= 250 \times 6$$

$$= 1500$$

∴ Agent received the commission Rs. 1500.

(6) The marked price of items purchased from a Sevagram khadi Bhander is Rs. 2160. Store gave Rs. 280. 80 rebate. What is the rate of rebate ?

Solution : Marked price of the items = Rs. 2160

Total rebate = 280.80

$$\text{Percentage discount} = \frac{\text{Total rebate}}{\text{Marked price of the items}} \times 100$$

$$= \frac{280.80}{2160} \times 100$$

$$= \frac{28080}{2160} = \frac{2808}{216} = \frac{468}{36} = \frac{78}{6} = 13$$

∴ Rate of rebate is 13 %.

(7) The marked price of a bedsheet is Rs. 500. A shopkeeper gives 8 % discount on it. He receives 15 % commission rate on actual sale. How much commission is received by shopkeeper ?

Solution : Marked price of bedsheet = Rs. 500

Discount = 8 %

Discount received on bedsheet = Marked price of bedsheet × percentage discount

$$= 500 \times \frac{8}{100} = 5 \times 8 = 40$$

Selling price = 500 − 40 = 460

Rate of commission = 15 %

Received commission = Percentage commission × Selling price

$$= \frac{15}{100} \times 460$$

$$= \frac{6900}{100}$$

$$= 69$$

∴ Shopkeeper received the commission Rs. 69.

(8) Shamrao sold a land to Sampatrao for Rs. 45,25,250 through a broker. Broker received 2 % brokerage from both of them. Find total brokerage received by the broker ?

Solution : Price of the land = Rs. 4525250

Rate of brokerage = 2 %

Brokerage = $4525250 \times \frac{2}{100}$

$$= \frac{9050500}{100}$$

$$= 90505$$

Broker received brokerage form both.

∴ Total brokerage = $90505 + 90505 = 1,81,010$

∴ Total brokerage received by broker is Rs. $1,81,010$**.**

18. Write whether following statements are true or false.

1. Shopkeeper gives discount on selling price.

Ans : Fales, Shopkeeper gives discount on marked price.

2. The remaining price after giving discount is selling price.

Ans : True

3. Rate of discount is given in decimal.

Ans : False, Rate of discount is given in percentage.

4. Discount is given to increase consumption of goods.

Ans : True

5. Commission is given in percentage.

Ans : True

6. Rate of commission charged on goods are same.

Ans : False, Rate of commission charged on goods are different according to goods.

7. Brokerage is received only by the one who sells or the one who purchase the goods.

Ans : False, Brokerage is received by the one who sells or the one who purchase the good or from the both.

8. A rebate is a type of discount.

Ans : True

9. Commission is given by recognised institutions or government according to specific conditions.

Ans : False, Rebate is given by recognised institutions or government according to specific conditions.

10. Shopkeepers offer discount to increase cash sales.

Ans : True

11. Marked price of item increases due to discount.

Ans : False, Marked price of item decreases due to discount.

12. The rebate amount and amount received as discount is same.

Ans : True

19. Match the following :-

'A' Group	'B' Group
(1) Discount	(a) $\frac{\text{Commission}}{\text{Selling price}} \times 100$
(2) Commission	(b) $\frac{\text{Discount}}{\text{Marked price}} \times 100$
(3) Percentage commission	(c) Marked price − Selling price
(4) Percentage commission	(d) $\frac{\text{Sale} \times \text{Percentage commission}}{100}$

Ans :

'A' Group	'B' Group
(1) Discount	(c) Marked price − Selling price
(2) Commission	(d) $\frac{\text{Sale} \times \text{Percentage commission}}{100}$
(3) Percentage commission	(b) $\frac{\text{Discount}}{\text{Marked price}} \times 100$
(4) Percentage commission	(a) $\frac{\text{Commission}}{\text{Selling price}} \times 100$

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