RD SHARMA

Solutions

Class 8 Maths

Chapter 13

Ex 13.3

Question 1: The list price of a refrigerator is Rs.9700. If a value-added tax of 6% is to be charged on it, how much one has to pay to buy the refrigerator?

Solution:

List price of the refrigerator = Rs. 9700

VAT =6%

So, VAT = 6% of Rs.9700

$= \frac{6}{100} \times 9700$

= Rs. 582

So, the total amount one has to pay is (Rs. 9700+ Rs.582) = Rs.10282

The total amount one has to pay is Rs. 10282.

Question 2: Vikram bought a watch for Rs. 825. If this amount includes 10% VAT on the list price, what was the list price of the watch?

Solution

Let the list price of the watch be Rs. x

Then, $x+\frac{10x}{100}$ = 825x+0.1x = 8251.1x = 825x = 8251.1x = Rs.750

Thus the list price of the watch is Rs.750.

Question 3: Aman bought a shirt for Rs. 374.50 which includes 7 % VAT. Find the list price of the shirt.

Solution

Let the list price of the shirt be Rs. x

Then,

$= x+\frac{7}{100}$ = 374.50x+0.07x = Rs.350

The list price of the shirt is Rs. 350.

Question 4: Rani purchases a pair of shoes whose sale price is Rs.175. if she pays VAT at the same rate of 7%, how much amount does she pay as VAT? Also, find the net value of the pair of the pair of shoes.

Solution

Given, S.P of the pair of shoes = Rs.175

VAT = 7%

Therefore, 7% of 175

$= \frac{7}{100} \times 175$

= Rs. 12.25

Rani has to pay Rs.12.25 as VAT

Total cost = Rs. 175+ Rs.12.25 = Rs. 187.25

Question 5: Swarna paid Rs. 20 as Vat on a pair of shoes worth Rs.250. find the rate of the VAT.

Solution

Given, amount paid by Swarna for a pair of shoes = Rs.250

VAT paid by her = Rs. 20

Let the rate of VAT be x%

Then, x% of 250

$= \frac{x}{100} \times 250 = 8$

$= 2.5x = 8$

$= x=8$

Swarna paid 8% VAT on the pair of shoes.

Question 6: Sarita buys goods worth Rs.5500. she gets a rebate of 5% on it. After getting the rebate if VAT at the rate of 5% is charged, find the amount she will have to pay for the goods.

Solution

Price after getting a rebate of 5% on Rs.550

= 5% on Rs. 5500

$= \frac{5}{100} \times 5500$

= Rs. 275

Therefore, new cost = Rs. 5500- Rs.275 = Rs. 5225

Now VAT = 5%

Now 5% of Rs. 5225

$= \frac{5}{100} \times 5225$

= Rs. 261.25

The amount to be paid for the goods = Rs. (5225+261.25) = Rs. 5486.25

Question 7: The cost of furniture inclusive of the VAT is Rs. 7150. If the rate of the VAT is 105, find the original cost of the furniture.

Solution

Cost of the furniture inclusive VAT = Rs. 7150

Let the original cost of the furniture be Rs. x

Cost of the furniture = 10% of x + x = Rs. 7150

= 1.10x = 7150

= x= Rs.6500

Thus, the original cost of the furniture is Rs. 6500.

Question 8: A refrigerator is available for Rs. 13750 including VAT. If the rate of the VAT is 10%, find the original cost of the furniture.

Solution

Cost of the refrigerator inclusive VAT is = Rs. 13750

Let the original cost of the furniture be Rs. x

Cost of the furniture = 10% of x + x = 13750

=1.10x = 13750

= x = Rs. 12500

Thus, the original cost of the furniture is Rs. 12500

Question 9

A color TV is available for Rs. 134400 inclusive of VAT. If the original cost of the TV is Rs. 12000, find the rate of VAT.

Solution

Cost price of the TV including VAT = Rs. 13440

Let the rate of VAT be x%

Cost of the TV = x% of 1200 +1200

= 13440-12000 = 120x

= 120x = 1440

= x= 12

Thus, the rate of the VAT on the color TV is 12%

Question 10

Reena goes to a shop to buy a radio, costing Rs. 2568. The rate of the VAT is 7%. She tells the shopkeeper to reduce the price of the radio such that she has to pay Rs. 2568, inclusive of VAT. Find the reduction needed at the price of radio.

Solution

Let the reduced price , excluding VAT , of the radio be Rs. x

Then, VAT =7% of Rs. x

$= \frac{7}{100} \times x$

= 0.07x

S.P of the radio = Rs. x+ Rs. 0.07x

= 1.07x

But, S.P = Rs. 2568

= 1.07x = 2568

= x = Rs. 2400

Hence, the reduction in the price of the radio = Rs. 2568 – Rs. 2400

= Rs. 168

The reduction of the price of the radio is Rs. 168.

Question 11

Rajat goes to a departmental store and buys the following articles:

Item	Price per item	Rate of VAT
2 pairs of shoes	Rs.800	5%
1 sewing machine	Rs. 1500	6%
2 tea- sets	Rs. 650	4%

Calculate the total amount he has to pay to the store.

Solution

Given, C.P of 2 pair of shoes = Rs. 800(2) = Rs.1600

Rate of VAT = 5%

= 5% of 1600

$= \frac{5}{100} \times 1600$

= Rs. 80

Therefore, Rajat needs to pay for 2 pair of shoes = Rs.1600+ Rs. 80 = Rs. 1680

Given, C.P of 1 sewing machine = Rs.1500

Rate of VAT = 6%

= 6% of 1500

$= \frac{6}{100} \times 1500$

= Rs. 90

Therefore, Rajat needs to pay for I sewing machine = Rs.1500+ Rs. 90 = Rs. 1590

C.P of 2 tea sets = Rs. 650(2) = Rs.1300

Rate of VAT = 4%

= 4% of 1300

$= \frac{4}{100} \times 1300$

= Rs. 52

Therefore, Rajat needs to pay for 2 tea sets = Rs.1300+ Rs. 52 = Rs. 1352

Question 12

Ajit buys a motorcycle for Rs. 17600 including value-added tax. If the rate of the VAT is 10%, what is the sale price of the motorcycle?

Solution

Let the sale price of the motorcycle be Rs. x

Cost including VAT = 10% of x + $\frac{17x}{600}$

$= \frac{10x}{100} + \frac{17x}{600}$

= 0.10x + x

= x = 16000

Thus, the sale price of the motorcycle is Rs. 16000.

Question 13

Manoj buys a leather coat costing Rs.900 and Rs.990 after paying VAT. Calculate the rate of VAT charged on the coat?

Solution

Let the rate of VAT be x%.

Then, VAT = Rs. $\frac{x}{100} \times 900$ = Rs.9x

So, x = 10

Manoj was charged 105 VAT on the leather jacket

Question 14

Rakesh goes to a departmental store and purchases the following articles:

(i)Biscuits and bakery products costing Rs. 50, VAT @ 5%

(ii) Medicines coating Rs.90, VAT @10%

(iii) Clothes costing Rs.400. VAT@1%

(iv) Cosmetics costing Rs.150, VAT@10%

Calculate the total amount to be paid by Rakesh to the store.

Solution

(i)

Cost of biscuits and bakery products = Rs.50

VAT charged = 5%

So, VAT = 5% of Rs.50

$= \frac{5}{100} \times 50$ = Rs. 2.50

So the total amount paid for biscuits and bakery products = Rs. 50 + Rs. 2.50 = Rs.52.50

(ii)

Cost of medicine = Rs. 90

VAT charged = 10%

So, VAT = 10% of Rs. 90

$= \frac{10}{100} \times 90 = \text{Rs . } 9$

So , the total amount paid for medicines = Rs.90 + Rs.9 = Rs.99

(iii)

Cost of clothes = Rs. 400

VAT= 1%

So, VAT = 1% of Rs.400

$= \frac{1}{100} \times 400 = \text{Rs.}4$

So, total amount paid for cosmetics= Rs.400 + Rs. 4 = Rs.404

(iv)

Cost of cosmetics = Rs. 150

VAT charged = 10%

So, VAT = 10% of 150

$= \frac{10}{100} \times 150$

= Rs. 15

So, the total amount to be paid for cosmetics = Rs. 150 + Rs. 15 = Rs.165

Hence, the total amount Rakesh paid at the departmental store = Rs. 52.50 + Rs. 99 + Rs. 404 + Rs. 165 = Rs. 720.50

Question 15

Rajeeta purchased a set of cosmetics. She paid Rs. 165 for it including VAT. If the rate of Vat is 10%, find the sale price of the set.

Solution

Let the sale price of the set be Rs. x

Given that the VAT charged is 10%

Cost of the set = x + 10% of x = 165

= 1.10x = 165

= x = Rs.150

Thus, the sale price of the set is Rs. 150

Question 16

Sunita purchases a bicycle for Rs.660. she has paid a VAT of 10%. Find the list price of the bicycle.

Solution

Let the sale price of the bicycle be Rs. x

VAT charged = 10%

Again, cost of the bicycle = x + 10% of x = 660

= 1.10x = 660

= x = Rs.600

Thus, the list price of the bicycle is Rs. 600

Question 17

The sales price of a television, inclusive of the VAT is Rs.13500. if the VAT is charged at the rate of 8 % of the list price, find the list price of the television.

Solution

Let the list price be the TV be Rs. x

VAT charged = 8%

Given, cost price of the TV = Rs. 13500

So, cost price of the TV = x + 8% of x

= x+ 0.08x = 13500

= x = 12500

Thus the list price of the TV is Rs. 12500

Question 18

Shikha purchased a car with marked price Rs.210000 at a discount of 5%. If the VAT is charged at the rate of 10%, find the amount she had paid for purchasing the car.

Solution

Marked price of the car = Rs. 210000

Discount allowed = 5%

Therefore, discount = 5% of 210000

$= \frac{5}{100} \times 210000$

= Rs. 10500

Therefore, cost of the car will be = marked price – discount

= Rs. 210000 – Rs.10500

= Rs. 199500

VAT = 10% of Rs. 199500

$= \frac{10}{100} \times 199500$

= Rs. 19950

Thus, the amount paid by shikha to the car = Rs. 199500+ Rs. 19950

= Rs. 219450

Question 19

Shruti bought a set of cosmetic items for Rs.345 including 15% value-added tax and a purse for Rs.110 including 10% VAT. What percent is the VAT charged on the whole transaction?

Solution

Let the price of the cosmetic items be Rs. x and the price of the purse be Rs. y

VAT = 15% of x

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

$= \frac{3x}{20}$

VAT = 10% of y

$= \frac{10}{100} \times y$

$= \frac{y}{10}$

S.P of cosmetic items = $x + \frac{3x}{20}$

$= \frac{23x}{20}$

S.P of the purse = $y + \frac{y}{10}$

$= \frac{11y}{10}$

But, the selling price of the cosmetic items and purse is Rs. 345 and Rs. 110 respectively.

So, $\frac{23x}{20}$ = Rs. 345

= x = Rs. 300

So, $\frac{11y}{10}$ = Rs. 110

= y = Rs. 100

Total price = Rs. (345+100)

= Rs. 400

Let the VAT on the whole transaction be r%

Now, r% of 400

$= \frac{r}{100} \times 400$

= 4r

$\frac{455}{4r} = 13.75$

VAT on the whole transaction is 13.75%.

Question 20

The list price of the cooler is Rs. 2563. The rate of the VAT is 10%. The customer requests the shopkeeper to allow a discount in the price of the cooler to such an extent that the price remains Rs. 2563 inclusive of VAT. Find the discount in the price of the cooler.

Solution

Let the reduced price of the cooler, excluding VAT be Rs. x

VAT = 10% of Rs. x

$= \frac{10}{10} \times x$

$= \frac{x}{10}$

Therefore, S.P of the cooler = Rs. $x + \frac{x}{10}$

$= \frac{11x}{10}$

But, S.P is already given as Rs. 2563

So, $2563 = \frac{11x}{10}$

= x = Rs. 2330

Hence, discount allowed in the price of the cooler = Rs. 2563 – Rs. 2330 = Rs. 233

Discount allowed in the price of the cooler is Rs. 233

Question 21: The list price of a washing machine is Rs. 9000. If the dealer allows a discount of 5% on the cash payment, how much money will a customer pay to the dealer in cash, if the rate of the VAT is 10%?

Solution

List price of the washing machine = Rs. 9000

Discount allowed = 5%

Discount = 5% of Rs. 9000

$= \frac{5}{100} \times 9000$

= Rs. 450

So, the cost of the washing machine = list price – discount

Rs. 9000 – Rs.450 = Rs. 8550

VAT = 10% of Rs. 8550

$= \frac{10}{100} \times 8550$

= Rs.855

Thus, the customers has to pay = Rs. 8550 + Rs. 855 = Rs. 9405