Exercise 13.1

Question 1: A student buys a pen for Rs 90 and sells it for Rs 100. Find his gain and gain percent.

Solution:

C.P of pen = Rs.90

S.P of pen = Rs. 100

Gain = SP-CP

= 100-90 = 10

Gain % = gain * 100

C.P = 10(10090)

= $11\frac{1}{9}\%$

Question 2: Rekha bought a saree for Rs.1240 and sold it for Rs. 1147. Find her loss and loss percent.

Solution

C.P of saree = Rs. 1240

S.P of saree = Rs. 1147

Loss = CP-SP

= Rs (1240-1147)

= Rs. 93

Loss% = $\frac{93}{1240} \times 100$

= 7.5 %

Question 3: A boy buys 9 apples for Rs. 9.60 and sells them at 11 for Rs.12. find his gain or loss percent.

Solution

C.P of 9 apples = Rs. 9.60

CP of 1 apple = $\frac{9.60}{9} = 1.06$

S.P of 11 apple = Rs. 12

SP of 1 apple = $\frac{12}{11} = 1.09$

Clearly,

SP of 1 apple > CP of 1 apple

We get profit on selling apples = SP-CP

= 0.022

Gain% = $\frac{0.022}{1.06} \times 100$

= 2.27 %

Question 4: The cost price of 10 articles is equal to the selling price of 9 articles. Find the profit percentage.

Solution

Let the cost price of 1 article be Rs. C

Let the selling price of 1 article be Rs. S

Therefore, 10C = 9S

1 C= $\frac{9}{10}$S

So the cost price is less than the selling price.

Profit = S.P-C.P

= 9S- $\frac{9}{10}$S

= $\frac{81}{10}$S

= 8.1 S

Profit = SP-CP

= $11\frac{1}{9}\%$

Question 5: A retailer buys a radio for Rs.225. his overhead expense are Rs15. if he sells the radio for Rs.300, determine the profit percentage.

Solution

Radio cost = Rs 225

Overhead expenses = Rs 15

Total expenses = Rs.(225+15) = Rs.240

S.P = Rs.300

Profit = SP-CP = Rs (300-240) = Rs.60

Profit% = $\frac{60}{240} \times 100$

= 25%

Question 6: A retailer buys a cooler for Rs.1200 and overhead expenses are on it are Rs.40. if he sells the cooler for Rs.1550, Determine the profit percentage.

Solution

Cooler cost = Rs.1200

Overhead cost = Rs.40

Total cost = Rs.(1200+40) = Rs.1240

S.P of the cooler = 1550

Profit = S.P-C.P

= Rs.(1550-1240)

= Rs. 310

Profit% = $\frac{310}{1240} \times 100$

= 25%

Question 7: A dealer buys a wrist watch for Rs. 225 and spends Rs.15 on its repairs. If he sells the same for Rs.300, find his profit percentage.

Solution

A dealer buys a wrist watch for Rs.225

Money spent on repairing the watch = Rs.15

Total expenses = Rs.(225+15) = Rs.240

S.P = Rs.300

Profit = SP-CP = Rs (300-240) = Rs.60

Profit% = $\frac{60}{240} \times 100$

= 25%

Question 8

Ramesh bought two boxes for Rs.1300. he sold one box at a profit of 20% and the other at a loss of 12%. If the selling price of both boxes

Solution

Let the cost price of the first box be Rs. x

Therefore, the cost of the second box will be Rs.(1300-x)

Profit on the first box = 20%

Loss on the second box = 12%

S.P of the first box = $\frac{120x}{100}$

= $\frac{6x}{5}$

S.P of the second box = Rs. 28600 – $\frac{88x}{100}$

= Rs.28600 – $\frac{22x}{25}$

Selling prices of both of the boxes are equal. So,

= $\frac{6x}{5}$ = Rs.28600 – $\frac{22x}{25}$

= x = 14300 – $\frac{110x}{260}$

= x= 550

The cost price of first box is Rs. 550

Cost price of the second box = Rs.(1300-550)

= Rs. 750

The cost prices of the 2 boxes are Rs.550 and Rs.750 respectively.

Question 9

If the selling price of 10 pens is equal to cost price of 14 pens, find the gain percent?

Solution

Let the cost price of one pen be Rs. C

The selling price be Rs. S

Therefore, 10S = 14C

C = $\frac{10}{14}S$

However, the cost price is less than the selling price.

Profit = 140-100

Profit % = 40%

The required profit percentage is 40%.

Question 10

If the cost price of 18 chairs be equal to selling price of 16 chairs, find the gain or loss percent

Solution

Let the cost price of one chair be Rs. C

Selling price be Rs. S

Therefore, 18C = 16S

However, the cost price of the chair is more than that of selling price.

Profit% = $\frac{1800-1600}{18}$

= $\frac{200}{16}$

= 12.5%

The required profit percent is 12.5%.

Question 11

If the selling price of 18 oranges is equal to the cost price of 16 oranges , find the gain or loss percentage

Solution

S Let the cost price of one chair be Rs. C

Selling price be Rs. S

Therefore, 18C = 16S

However, the cost price of the chair is more than that of selling price.

Profit% = $\frac{1800-1600}{18}$

= $\frac{200}{18}$

= $11\frac{1}{9}\%$

The profit % is $11\frac{1}{9}\%$.

Question 12

Ravish sold his motorcycle to Vineet at a loss of 28%. Vineet spent Rs.1680 on it's repairs and sold the motorcycle to Rahul for Rs.35910, thereby making profit of 12.5%, find the cost price of the motorcycle for Ravish.

Solution

Let the cost price of the motor cycle for Ravish be Rs. x

Loss % = 28%

S.P = $\frac{72x}{100}$

Selling price of the motorcycle for ravish = cost price of the motorcycle for vineet

Money spent on repairs = Rs.1680

Therefore, total cost price of the motorcycle for vineet =

Rs($\frac{72x}{100}$ + 1680(12.5) + 100(100)

= (35910)(100)(100) = $\frac{72x}{100}$

= 35910000 = 8100x +18900000

= x= 42000

Ravish bought the motorcycle for Rs.42000

Question 13

By selling a book for Rs.258, a bookseller gains 20%. Find how much should he sell to gain 30%?

Solution

Selling price of the book = Rs. 258

Gain = 20%

S.P = $\frac{120}{100} \times 258$

= Rs. 215

C.P = $\frac{130}{100} \times 215$

= Rs. 279.50

Therefore, the book seller must sell the book at Rs. 279.50 to make 30% profit.

Question 14

A defective briefcase costing Rs.800 is being sold at a loss of 8%. If the price is further reduced by 5%, find its selling price?

Solution

C.P of the briefcase = Rs. 800

Loss = 8%

S.P = $\frac{92}{100} \times 800$

= Rs. 736

The price is decreased further by 5 %

S.P = $\frac{95}{100} \times 736$

= Rs. 699.20

The selling price of the briefcase is Rs. 699.20

Question 15

By selling 90 ball pens for Rs160 a person loses 20%. How many ball pens should be sold at Rs.96 so as to have a profit of 20%?

Solution

S.P of 90 ball pens = Rs 160

Loss= 20%

C.P = $\frac{100}{20} \times 160$

= Rs. 200

Now,

S.P of 90 ball pens = Rs. 96

Profit = 20%

C.P = $\frac{100}{120} \times 96$

= Rs .80

Rs .200 is the cost price of 90 ball pens.

Therefore, Rs.80 is the C.P of = 90 ($\frac{80}{200}$) = 36 ball pens

Thus, 36 ball pens should be sold at Rs. 96 to earn a profit of 20%

Question 16

A man sells an article at a profit of 25%. If he had bought it at a 20% less and sold it for Rs.36.75 less, he would have gained 30%. Find the cost price of the article

Solution

Let the C.P be the article be Rs. x

Profit = 25%

Original S.P = x + $\frac{25}{100}x$

= Rs. $\frac{5x}{4}$

If he purchased it at 20% less,

C.P = x- $\frac{20}{100}$x

= Rs. $\frac{4x}{5}$

He sold the article at Rs. 36.75

So, the selling price = Rs. $\frac{5x}{4}$ – 36.75

Given, that he would have gained 30% selling at that price.

Therefore, gain% = S.P-C.P

= $\frac{5x}{4}$ -36.75 – $\frac{4x}{5}$

= $\frac{25x-16x}{20}$ -36.75

So, gain % = $\frac{9x}{20}$-36.75- $\frac{4x}{5}$(100)

= 18375x = 18375105

= x = 175

The cost price of the article is Rs. 175.

Question 17

A dishonest shopkeeper professes to sell pulses at his cost price but uses a false weight of 950 gm for each kilogram. Find his gain percentage.

Solution

He sells 950 gm pulses and gets a grain of 50 gm.

If he sells 10 gm of pulses, he will gain:

$\frac{50}{950} \times 100$

His gain percentage is $55\frac{1}{9}\%$

Question 18

A dealer bought two tables for Rs.3120. he sold one of them at a loss of 15% and the other at a gain of 36%. . Then, he found that each table was sold for the same price. Find the cost price of each table.

Solution

Given that the selling price is same for both the tables.

Let the C.P of 1 table be x

Then the C.P of the other table be = Rs.3120-x

Loss on the first table = 15%

Therefore, S.P = $\frac{85x}{10}$

= 0.85x

Gain on the second table = 36%

136(3120-x)

Since both the tables have the same S.P

2.21x = 4243.20

= x= 1920

The cost price of the table is Rs.1920

The cost price of the other table is Rs.(3120-1920) = Rs.1200

Question 19

Mariam bought two fans Rs.3605. she sold one of them at a profit of 15% and the other one at a loss of 9 %. If Mariam obtained the same amount for each fan, find the cost price of the each of the fans.

Solution

It is given that the S.P is same for both of the fans.

Let the C.P of the first fan be Rs. x

Therefore, C.P of the second fan be Rs. (3605-x)

Profit on the first fan = 15%

Loss on the second fan = 6%

For the first fan, S.P = $\frac{115x}{100}$

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

For the second fan, S.P = $\frac{91x}{100}$

Since, S.P of both the fans is the same

= $\frac{23x}{20}$ = 3605 – $\frac{91x}{100}$

= x = 1592

C.P of the first fan = Rs. 1592

C.P of the second fan = Rs.(3605-1592)

= Rs. 2012.50

The cost prices of the both of the fans are Rs.1592 and Rs. 2012.50 respectively.

Question 20

Some toffees are bought at a rate of 11 for Rs.10 and the same number at the rate of 9 for Rs.10. if the whole lot is sold at one per toffee, find the gain or loss percent on the whole transaction.

Solution

Let the total number of toffees bought be Rs. x

Let x_2 at the rate of 11 are bought for Rs.10,

Total money spent on toffees = $\frac{200x}{198}$

= $\frac{100x}{99}$

It is given that x toffees are sold at Re.1 per toffee.

Therefore, the selling price of x toffees = Rs. x(1)

As C.P is more than S.P, it will be the loss.

Loss= C.P-S.P

= $\frac{100x}{99}$ – x

= $\frac{x}{99}$

Loss% = 1%

The total loss on the whole transaction would be 1%

Question 21

A tricycle is sold at a gain of 16%. Had it been sold for Rs.100 more, the gain would have been 20%. Find the C.P of the tricycle.

Solution

Let the S.P of the tricycle be Rs. x

Let the C.P of the tricycle be Rs. y

Gain % = 16%

Then we have,

= x= y+ $\frac{16y}{100}$

= x = y+ 0.16y

When S.P increases by Rs.100, we get

= x+ 100 = y + $\frac{20y}{100}$

Putting x = 1.6y

= 1.16y+100 = y+0.2y

= 1.16y +100 = 1.2y

= y = 2500

The C.P of the cycle is 2500

Thus, C.P of the tricycle is Rs. 2500.

Question 22

Shabana bought 16 dozens ball pens and sold them at a loss of to S.P of 8 ball pens. Find:

(i) Her loss percent

(ii) P of 1 dozen ball pens, if she purchased these 16 dozens ball pens for Rs.576

Solution

(i) Number of pens bought = 16(12) = 192

Let S.P of one pen be Rs. x

Therefore, S.P of 192 pens = 192x

C.P of 8 pens = Rs. 8x

It is given that S.P of 8 pens is equal to the loss on selling 192 pens.

Therefore, loss= Rs.8x

C.P of 192 pens = Rs 576

Loss = C.P –S.P

= 8x = 576 – $\frac{192x}{200}$

= 576 x = 576200

=x= 2.88

Therefore, loss= RS.23.04

Loss% = 4%

(ii) P of 1 pen = Rs.2.88

Therefore, S.P of 1 dozen pens = 12x = 12(2.88)

= Rs.34.56

Question 23

The difference between two selling pieces of a shirt at a profit of 4 % and 5% is Rs.6. find:

(i) P of the shirt

(ii) The two selling prices of the shirt

Solution

Let the C.P of both the shirt be RS. X

For 1 shirt profit = 4%

Profit% = Rs. 0.04x

S.P = Rs.1.04x

For 2 shirt profit = 5%

Profit% = Rs. 0.05x

S.P = Rs.1.05x

It is given that the difference between their profits is Rs.6

So, 1.05x-1.04x = 6

= x = Rs.600

Thus, C.P = Rs.600

S.P of 1 shirt 1 = Rs.1.04x = Rs. 1.04(600)= Rs. 624

S.P of 1 shirt 2 = Rs.1.05x = Rs. 1.05(600)= Rs. 630

Question 24

Toshiba bought 100 hens for Rs.8000 and sold 20 of these at a gain of 5%. At what gain percent she must sell the remaining hens so as to gain 20% on the whole?

Solution

C.P of 100 hens = RS. 8000

Cost of one hen = $\frac{8000}{100}$

Rs. 80 C.P of 20 hens = Rs (80*20) = Rs. 1600

Gain = 5%

S.P = $\frac{105}{100} \times 1600$

= Rs. 1680

C.P of 80hens = Rs.(80*80) = Rs. 6400

Gain on 80 hens – C.P 80 hens

Gain on 100 hens = gain on 80 hens + gain on 20 hens

= 80+ S.P of 80 hens – 6400

S.P of 80 hens = Rs (1600+6400-80)

S.P of 80 hens = Rs. 7920

Gain on 80 hens = S.P of 80 hens – C.P of 80 hens

= Rs. (792-6400) = Rs. 1520

Gain % 80 hens = $\frac{1520}{6400} \times 100$

= 23.75%

Therefore, Toshiba gained 23.75% on 80 hens.

Exercise 13.2

Question 1: Find the S.P.

Solution:

(i) P= Rs.13000 and Discount= 10%

We know that S.P = M.P – discount

Discount% = $\frac{discount}{MP} \times 100$

= $\frac{10}{1300} \times 100$

= Rs.130

S.P = Rs (1300-130) = Rs. 1170

(ii) M.P= Rs.500 and Discount= 15%

We know that S.P = M.P – discount

Discount% = $\frac{discount}{MP} \times 100$

= $\frac{15}{100} \times 500$

= Rs.75

S.P = Rs.(500-75) =Rs. 425

Question 2: Find the M.P.

Solution

(i) P= Rs.1222 and Discount= 6%

Given, S.P = Rs. 1222

Discount = 6%

M.P = $100 \times \frac{S.P}{100} - discount\%$

= $100 \times \frac{1222}{100} - 6$

= Rs.1300

(ii) P= Rs.495 and Discount= 1%

Given, S.P = Rs. 495

Discount = 1%

M.P = $100 \times \frac{S.P}{100} - discount\%$

= $100 \times \frac{495}{100} - 1$

= Rs.500

Question 3: Find the discount in percent.

Solution

(i) P= Rs.900 and S.P =Rs.873

We know that,

S.P = M.P- discount

= 873 = 900- discount

= discount = (900-873) = Rs. 27

Discount% = $100 \times \frac{discount}{M.P}$

= $100 \times \frac{27}{900}$

= 3%

(ii) P= Rs.500 and S.P =Rs.425

We know that,

S.P = M.P- discount

= 425 = 500- discount

= discount = (500-425) = Rs. 75

Discount% = $100 \times \frac{discount}{M.P}$

= $100 \times \frac{75}{500}$ = 15%

Question 4 A shop selling sewing machines offers 3% discount on all cash purchases. What cash amount does a customer pay for a sewing machine the price of which is marked as Rs.650?

Solution

Discount = 3%

Marked price = Rs.650

Now, 3% of the M.P = $\frac{3}{100} \times 650$

= Rs.19.50

So, M.P = M.P – discount

= 650 – 19.50

= Rs.630.50

Question 5: The marked price of a ceiling fan is Rs. 720. During off-season, it is sold for Rs.684, determine the discount percentage.

Solution

Given, M.P of the ceiling fan = Rs. 720

S.P of the ceiling fan = Rs. 684

Since S.P = M.P – discount

Discount = M.P –S.P

= Rs.(720-684)

= Rs. 36

Discount% = $\frac{discount}{MP} \times 100$

= $\frac{36}{720} \times 100$

= 5%

Question 6

On the eve of Gandhi Jayanti, a saree is sold for Rs.720 after allowing 20% discount. What is the market price?

Solution

Given, S.P of the saree = Rs. 720

Discount on the saree = 20%

We know, Discount% = $\frac{discount}{MP} \times 100$

Let the M.P of the saree be Rs. x.

Question 13

A shopkeeper allows 23% on commission on his advertised price and still makes a profit of 10%. If he gains Rs.56 on one item, find his advertised price.

Solution

Let the C.P of the item be = Rs .x

Profit% = 10%

Profit = 10% 0f x

$= \frac{110x}{100}$

= Rs. 1.1x

Again, Profit = S.P – C.P

= Rs. (1.1x-x) = Rs. 0.1x

We get,

= 0.1x = 56

= x= Rs.560

The advertised price = Rs.800

The advertised price of the item is Rs. 800

Question 14

A shopkeeper marks his goods at 40% above the cost price but allows a discount of 5% for cash payment to his customers. What actual profit does he make, if he receives Rs.1064 after paying the discount?

Solution

Let the original cost price of the item be Rs. x

Let the original cost price of the item be Rs. x

Profit = 40%

Profit = $\frac{40}{100}$

M.P = x+ 0.40x=1.4x

Discount = M.P – S.P

= Rs. 800.

Profit = Rs.(1064-800)

=Rs. 264

The actual profit by the shopkeeper is Rs. 264

Question 15

By selling a pair of earrings at a discount of 25% on the marked price, a jeweler makes a profit of 16%.if the profit is Rs.48, what is the cost price? What is the marked price and the price at which the pair was eventually bought?

Solution

Let the cost price of the pair of the earrings be Rs. x

Profit = 16%

S.P = $\frac{116}{100} \times S.P$

Profit = S.P – C.P

= $\frac{116}{100} \times S.P$ – C.P

16x = 4800

=x = 300

$\frac{116x}{100} = 348$

Discount = $\frac{34800}{}$

= Rs. 464

Thus, C.P of the pair of earrings = Rs. x = Rs. 300

S.P of the pair of earrings = Rs. 348

M.P of the pair of earrings = Rs. 464

Question 16

A publisher gives 32% discount on the printed price of a book to booksellers. What does a bookseller pay for a book whose printed price is Rs.275?

Solution

Discount allowed by the publisher =- 32% on the printed price

Printed price = Rs. 275

So, 32% of Rs. 275

$= \frac{32}{100} \times Rs.275$

= Rs. 88

The bookseller pays = Rs.275 – Rs. 88

= Rs. 187

The bookseller pays Rs. 187 for a book.

Question 17

After allowing a discount of 20% on the marked price of a lamp, a trader loses 10%.By what percentage is the marked price above the cost price?

Solution

Let the C.P of the lamp be RS. 100

Loss= 10% of C.P

S.P = C.P – loss

= Rs.100 – Rs. 10

= RS. 90

The trader allows a discount of 20%

This means when the M.P is Rs. 100, the S.P will be Rs. 80

Now, Rs. 80 is the S.P, the M.P = Rs. 100

If Re.1 is the S.P, then M.P = Rs. $\frac{100}{80}$

Rs. 90 is the S.P then, M.P = Rs. $\frac{100}{80} \times 90$

= Rs. 112.50

Hence, the trader marks his goods at 12.5% above the cost price.

Question 18

The list price of a table fan is Rs.480 and it is available to a retailer at 25% discount. For how much should a retailer sell it to gain 15%?

Solution

Marked price of the table= Rs. 480

Discount = 25%

Therefore, cost price = 25% of Rs. 480

= $\frac{125}{100} \times 480$

= Rs. 360

It is given that the profit on the table fan is 15%

Gain = Rs. 54

S.P = Rs. 364 + Rs. 54

= Rs. 414

Thus, the retailer will sell the table fan for Rs. 414

Question 19

Rohit buys an item at 25% discount on the marked price. He sells it for Rs.660, making a profit of 10%. What is the marked price of the item?

Solution

Given, S.P of the item = Rs. 660

Discount on the item = 25%

Profit on the item = 10%

Discount = 25% of S.P

Discount = $\frac{660}{100-25} \times 100$

= Rs. 880

Thus, the marked price of the item is Rs. 880

Question 20

A cycle merchant allows 20% discount on the marked price of the cycles and still makes a profit of 20%. If he gains Rs.360 over the sale of one cycle, find the marked price of the cycle?

Solution

Given, gain on one cycle = Rs. 360

Gain = 20%

S.P = $\frac{120}{100} \times 1800$

= Rs. 2160

M.P = $\frac{S.P}{100} \times 100$ – discount%

M.P = $\frac{2160}{80} \times 10$

= Rs. 2700

Hence, the M.P of one cycle is Rs. 2700

Question 21

Jyoti and Meena run a ready – made garment shop. They mark the garments at such a price that even after allowing a discount of 12.5%, they make a profit of 10%. Find the marked price of a suit which costs them Rs.1470.

Solution

Given, C.P of the suit = Rs 1470

Gain = 10%

S.P = 100 + $\frac{Gain}{100} \times C.P$

= 100+ $\frac{10}{100} \times 1470$

= Rs. 1617

Discount = 12.5%

So, M.P = $\frac{S.P}{100} \times 100$ – discount

= $\frac{1617}{100} \times 100 - 12.5$

= Rs. 1848

Therefore, the marked price of the suit is Rs. 1848.

Question 22

What price should Aslam mark on a pair of shoes which costs him Rs.1200 so as to gain 12% after allowing a discount of 16%?

Solution

Given, C.P of the pair of shoes = Rs. 1470

Gain = 12%

Discount = 16%

So, S.P = $\frac{Gain}{100} \times C.P + 100$

= Rs. $\frac{12}{100} \times 1470 + 100$

= Rs. 1344

Now, the S.P of the pair of shoes = Rs. 1344

Discount = 16%

So, M.P = $\frac{1344}{100} \times 100 - 16$

= Rs. 1600

Aslam should sell the pair of shoes for Rs. 1600

Question 23

Jasmine allows 4% discount on the marked price of her goods and still earns a profit of 20%. What is the cost price of a shirt for her marked as Rs.850?

Solution

Given,

M.P of the shirt = Rs.850

Discount = 4%

Discount allowed = $\frac{4}{100} \times 850$.

= Rs. 34

Thus, the S.P of the shirt = Rs.850 – Rs.34

= Rs. 816

Profit earned by jasmine = 20%

Thus, C.P = $\frac{S.P}{100} \times 100$ + profit%

= $\frac{816}{100} \times 100 + 20$

= Rs. 680

Thus, the cost price of the shirt is Rs. 680

Question 24

A shopkeeper offers 10% off-season discount to the customers and still makes a profit of 26%. What is the cost price for the shopkeeper on a pair of shoes marked at Rs.1120?

Solution

Given,

M.P of the pair of shoes = Rs. 1120

Discount = 10%

So, S.P = $\frac{M.P}{100}$ – discount%

= $\frac{90}{100} \times 1120$

= Rs. 1008

Therefore, C.P = $\frac{S.P}{100} \times 100$ + profit%

= $\frac{1008}{100} \times 10 + 26$

= Rs. 800

The cost price of the pair of shoes will be Rs. 800

Question 25

A lady shopkeeper allows her customers 10% discount on the marked price of the goods and still gets a profit of 25%. What is the cost price of a fan for her marked at Rs.1250?

Solution

Given,

M.P of the fan = Rs. 1250

Discount = 10%

So, discount = 10% of 1250

$= \frac{10}{100} \times 1250$

= Rs. 125

Since, S.P = M.P – discount

= Rs.1250- Rs. 125

= Rs. 1125

S.P of the fan = Rs. 1125

Profit % = 25%

C.P = $\frac{100}{100+25} \times 1125$

$= \frac{100}{125} \times 1125$

= Rs. 900

Thus the cost price of the fan is Rs. 900

Exercise 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

$= \frac{10}{100} \times 90$ = 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

$= \frac{1}{100} \times 400$ = 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