EXERCISE 8.2 PAGE NO: 125

1. A man got a 10% increase in his salary. If his new salary is ₹1,54,000, find his original salary.

Solution:

Let the original salary be x

Given that, the new salary is ₹1,54,000

Original salary + Increment = New salary

Given that the increment is 10% of the original salary

So, (x + 10/100 × x) = 154000

x + x/10 = 154000

11x/10 = 154000

x = 154000 × 10/11

= 140000

Therefore, the original salary was ₹1,40,000.

2. On Sunday, 845 people went to the zoo. On Monday, only 169 people went. What is the per cent decrease in the number of people visiting the zoo on Monday?

Solution:

Given that on Sunday, 845 people went to the zoo, and on Monday, 169 people went to the zoo.

Decrease in the number of people = 845 – 169 = 676

Thus,

Percentage decrease = (Decrease in the number of people/Number of people who went to the zoo on Sunday) x 100%

= (676/845 x 100)%

= 80%

3. A shopkeeper buys 80 articles for ₹ 2,400 and sells them for a profit of 16%. Find the selling price of one article.

Solution:

Given that the shopkeeper buys 80 articles for ₹ 2,400

Cost of one article = 2400/80 = ₹ 30

Profit percentage = 16%

Profit percentage = Profit/C.P. x 100

16 = Profit/30 x 100

Profit = (16 x 30)/100

= ₹ 4.8

Therefore, the selling price of one article = C.P. + Profit

= ₹ (30 + 4.80)

= ₹ 34.80

4. The cost of an article was ₹ 15,500. ₹ 450 was spent on its repairs. If it is sold for a profit of 15%, find the selling price of the article.

Solution:

The total cost of an article = Cost + Overhead expenses

= ₹15500 + ₹450

= ₹15950

Profit percentage = 15%

Profit percentage = Profit/C.P. x 100

15 = Profit/15950 x 100

Profit = (15 x 15950)/100

= 2392.50

Therefore, the selling price of the article = C.P. + Profit

= ₹(15950 + 2392.50)

= ₹18342.50

5. A VCR and TV were bought for ₹ 8,000 each. The shopkeeper made a loss of 4% on the VCR and a profit of 8% on the TV. Find the gain or loss per cent on the whole transaction.

Solution:

C.P. of a VCR = ₹ 8000

The shopkeeper made a loss of 4 % on VCR

This means if C.P. is ₹ 100, then S.P. is ₹ 96.

When C.P. is ₹ 8000,

S.P. = (96/100 x 8000) = ₹ 7680

C.P. of a TV = ₹ 8000

The shopkeeper made a profit of 8 % on TV.

This means that if C.P. is ₹ 100, then S.P. is ₹ 108.

When C.P. is ₹ 8000,

S.P. = (108/100 x 8000) = ₹ 8640

Total S.P. = ₹ 7680 + ₹ 8640 = ₹ 16320

Total C.P. = ₹ 8000 + ₹ 8000 = ₹ 16000

Since, total S.P.> total C.P. ⇒ profit

Profit = ₹ 16320 − ₹ 16000 = ₹ 320

Profit % on the whole transaction = Profit/Total CP x 100

= 320/16000 x 100

= 2%

Therefore, the shopkeeper had a gain of 2% on the whole transaction.

6. During a sale, a shop offered a discount of 10% on the marked prices of all the items. What would a customer have to pay for a pair of jeans marked at ₹ 1450 and two shirts marked at ₹ 850 each?

Solution:

Total marked price = ₹ (1,450 + 2 × 850)

= ₹ (1,450 +1,700)

= ₹ 3,150

Given that, the discount percentage = 10%

Discount = ₹ (10/100 x 3150) = ₹ 315

Also, Discount = Marked price − Sale price

₹ 315 = ₹ 3150 − Sale price

∴ Sale price = ₹ (3150 − 315)

= ₹ 2835

Therefore, the customer will have to pay ₹ 2,835.

7. A milkman sold two of his buffaloes for ₹ 20,000 each. On one, he made a gain of 5% and on the other, a loss of 10%. Find his overall gain or loss.

(Hint: Find the C.P. of each)

Solution:

S.P. of each buffalo = ₹ 20,000

The milkman made a gain of 5% while selling one buffalo

This means if C.P. is ₹ 100, then S.P. is ₹ 105.

C.P. of one buffalo = 100/105 × 20000

= ₹ 19,047.62

Also, the second buffalo was sold at a loss of 10%

This means if C.P. is ₹ 100, then S.P. is ₹ 90

∴ C.P. of other buffalo = 100/90 × 20000

= ₹ 22222.22

Total C.P. = ₹ 19047.62 + ₹ 22222.22 = ₹ 41269.84

Total S.P. = ₹ 20000 + ₹ 20000 = ₹ 40000

Loss = ₹ 41269.84 − ₹ 40000 = ₹ 1269.84

Therefore, the overall loss of milkman was ₹ 1,269.84

8. The price of a TV is ₹ 13,000. The sales tax charged on it is at the rate of 12%. Find the amount that Vinod will have to pay if he buys it.

Solution:

On ₹ 100, the tax to be paid = ₹ 12

Here, on ₹ 13000, the tax to be paid will be = 12/100 × 13000

= ₹ 1560

Required amount = Cost + Sales Tax

= ₹ 13000 + ₹ 1560

= ₹ 14560

Therefore, Vinod will have to pay ₹ 14,560 for the TV.

9. Arun bought a pair of skates at a sale where the discount given was 20%. If the amount he pays is ₹ 1,600, find the marked price.

Solution:

Let the marked price be x

Discount percent = Discount/Marked Price x 100

20 = Discount/x × 100

Discount = 20/100 × x

= x/5

Also,

Discount = Marked price – Sale price

x/5 = x – ₹ 1600

x – x/5 = 1600

4x/5 = 1600

x = 1600 x 5/4

= 2000

Therefore, the marked price was ₹ 2000.

10. I purchased a hair dryer for ₹ 5,400, including 8% VAT. Find the price before VAT was added.

Solution:

The price includes VAT

So, 8% VAT means that if the price without VAT is ₹ 100,

Then, the price including VAT will be ₹ 108

When price including VAT is ₹ 108, original price = ₹ 100

When price including VAT is ₹ 5400, original price = ₹ (100/108 × 5400)

= ₹ 5000

Therefore, the price of the hair dryer before the addition of VAT was ₹ 5,000.