Exercise 8.2

Question 1:

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

Answer 1:

Let original salary be ₹ 100.

Therefore New salary i.e., 10% increase = 100 + 10 = ₹ 110

$\because$ New salary is ₹ 110, when original salary = ₹ 100

$\therefore$ New salary is ₹ 1, when original salary = $\frac{100}{110}$

$\therefore$ New salary is ₹ 1,54,000, when original salary = $\frac{100}{110} \times 154000$ = ₹ 1,40,000

Hence original salary is ₹ 1,40,000.

Question 2:

On Sunday 845 people went to the Zoo. On Monday only 169 people went. What is the percent decrease in the people visiting the Zoo on Monday?

Answer 2:

On Sunday, people went to the Zoo = 845

On Monday, people went to the Zoo = 169

Number of decrease in the people = 845 – 169 = 676

Decrease percent = $\frac{676}{845} \times 100$ = 80%

Hence decrease in the people visiting the Zoo is 80%.

Question 3:

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

Answer 3:

No. of articles = 80

Cost Price of articles = ₹ 2,400

And Profit = 16%

$\because$ Cost price of articles is ₹ 100, then selling price = 100 + 16 = ₹ 116

$\therefore$ Cost price of articles is ₹ 1, then selling price = $\frac{116}{100}$

$\therefore$ Cost price of articles is ₹ 2400, then selling price = $\frac{116}{100} \times 2400$ = ₹ 2784

Hence, Selling Price of 80 articles = ₹ 2784

Therefore Selling Price of 1 article = $\frac{2784}{80}$ = ₹ 34.80

Question 4:

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

Answer 4:

Here, C.P. = ₹ 15,500 and Repair cost = ₹ 450

Therefore Total Cost Price = 15500 + 450 = ₹ 15,950

Let C.P be ₹ 100, then S.P. = 100 + 15 = ₹ 115

$\because$ When C.P. is ₹ 100, then S.P. = ₹ 115

$\therefore$ When C.P. is ₹ 1, then S.P. = $\frac{115}{100}$

$\therefore$ When C.P. is ₹ 15950, then S.P. = $\frac{115}{100} \times 15950$ = ₹ 18,342.50

Question 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 percent on the whole transaction.

Answer 5:

Cost price of VCR = ₹ 8000 and Cost price of TV = ₹ 8000

Total Cost Price of both articles = ₹ 8000 + ₹ 8000 = ₹ 16,000

Now VCR is sold at 4% loss.

Let C.P. of each article be ₹ 100, then S.P. of VCR = 100 – 4 = ₹ 96

$\because$ When C.P. is ₹ 100, then S.P. = ₹ 96

$\therefore$ When C.P. is ₹ 1, then S.P. = $\frac{96}{100}$

$\therefore$ When C.P. is ₹ 8000, then S.P. = $\frac{96}{100} \times 8000$ = ₹ 7,680

And TV is sold at 8% profit, then S.P. of TV = 100 + 8 = ₹ 108

$\because$ When C.P. is ₹ 100, then S.P. = ₹ 108

$\therefore$ When C.P. is ₹ 1, then S.P. = $\frac{108}{100}$

$\therefore$ When C.P. is ₹ 8000, then S.P. = $\frac{108}{100} \times 8000$ = ₹ 8,640

Then, Total S.P. = ₹ 7,680 + ₹ 8,640 = ₹ 16,320

Since S.P. > C.P.,

Therefore Profit = S.P. – C.P. = 16320 – 16000 = ₹ 320

And Profit% = $\frac{\text{Profit}}{\text{Cost Price}} \times 100 = \frac{320}{16000} \times 100 = 2\%$

Question 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?

Answer 6:

Rate of discount on all items = 10%

Marked Price of a pair of jeans = ₹ 1450 and Marked Price of a shirt = ₹ 850

Discount on a pair of jeans = $\frac{\text{Rate} \times \text{M.P.}}{100} = \frac{10 \times 1450}{100}$ = ₹ 145

$\therefore$ S.P. of a pair of jeans = ₹ 1450 – ₹ 145 = ₹ 1305

Marked Price of two shirts = 2 x 850 = ₹ 1700

Discount on two shirts = $\frac{\text{Rate} \times \text{M.P.}}{100} = \frac{10 \times 1700}{100}$ = ₹ 170

$\therefore$ S.P. of two shirts = ₹ 1700 – ₹ 170 = ₹ 1530

Therefore, the customer had to pay = 1305 + 1530 = ₹ 2,835

Question 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 CP of each)

Answer 7:

S.P. of each buffalo = ₹ 20,000

S.P. of two buffaloes = ₹ 20,000 x 2 = ₹ 40,000

One buffalo is sold at 5% gain.

Let C.P. be ₹ 100, then S.P. = 100 + 5 = ₹105

$\because$ When S.P. is ₹ 105, then C.P. = ₹ 100

$\therefore$ When S.P. is ₹ 1, then C.P. = $\frac{100}{105}$

$\therefore$ When S.P. is ₹ 20,000, then C.P. = $\frac{100}{105} \times 20000$ = ₹ 19,047.62

Another buffalo is sold at 10% loss.

Let C.P. be ₹ 100, then S.P. = 100 – 10 = ₹ 90

$\because$ When S.P. is ₹ 90, then C.P. = ₹ 100

$\therefore$ When S.P. is ₹ 1, then C.P. = $\frac{100}{90}$

$\therefore$ When S.P. is ₹ 20,000, then C.P. = $\frac{100}{90} \times 20000$ = ₹ 22,222.22

Total C.P. = ₹ 19,047.62 + ₹ 22,222.22 = ₹ 41,269.84

Since C.P. > S.P.

Therefore here it is loss.

Loss = C.P. – S.P. = ₹ 41,269.84 – ₹ 40,000.00 = ₹ 1,269.84

Question 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.

Answer 8:

C.P. = ₹ 13,000 and S.T. rate = 12%

Let C.P. be ₹ 100, then S.P. for purchaser = 100 + 12 = ₹ 112

$\because$ When C.P. is ₹ 100, then S.P. = ₹ 112

$\therefore$ When C.P. is ₹ 1, then S.P. = $\frac{112}{100}$

$\therefore$ When C.P. is ₹ 13,000, then S.P. = $\frac{112}{100} \times 13000$ = ₹ 14,560

Question 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.

Answer 9:

S.P. = ₹1,600 and Rate of discount = 20%

Let M.P. be ₹ 100, then S.P. for customer = 100 – 20 = ₹ 80

$\because$ When S.P. is ₹ 80, then M.P. = ₹ 100

$\therefore$ When S.P. is ₹1, then M.P. = $\frac{100}{80}$

$\therefore$ When S.P. is ₹1600, then M.P. = $\frac{100}{80} \times 1600$ = ₹ 2,000

Question 10:

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

Answer 10:

C.P. = ₹ 5,400 and Rate of VAT = 8%

Let C.P. without VAT is ₹100, then price including VAT = 100 + 8 = ₹ 108

$\because$ When price including VAT is ₹ 108, then original price = ₹ 100

When price including VAT is ₹ 1, then original price = $\frac{100}{108}$

When price including VAT is ₹ 5400,

then original price = $\frac{100}{108} \times 5400$ = ₹ 5000