



SpeedLabs

MATHS

CBSE 8th

TEEVRA EDUTECH PVT. LTD.

Comparing Quantities

Exercise 8.2

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

Sol: 10% increase means that his new salary is $(100 + 10) = 110$, when original salary is Rs100.

Since, new salary is Rs 110, then original salary = Rs 100

When new salary is Rs 1, then original salary = Rs $\frac{100}{110}$

When new salary is 1, 54,000, then original salary = Rs $\frac{100 \times 1,54,000}{110} = \text{Rs } 1, 40,000$

Hence, original salary is Rs 1, 40,000.

Q.2 On Sunday 845 people went to the Zoo. On Monday only 169 people went. What is the per cent decrease in the people visiting the Zoo on Monday?

Sol: On Sunday, people went to the Zoo = 845

On Monday, people went to the Zoo = 169

Number of the decrease in the people = $845 - 169 = 676$

Decreased per cent = $\frac{676 \times 100}{845} = \frac{6700}{845} = \text{Rs } 80\%$

Percent decrease in the people visiting the Zoo = 80%.

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

Sol: No. of articles = 80 C.P. of articles = Rs 2400 Profit = 16%

Since, cost price of articles Rs100, then selling price = Rs 116

When C.P. is Rs1, then S.P. = Rs $\frac{116}{100}$

When C.P. is Rs2400, then S.P. = Rs $\frac{116 \times 2400}{100} = \text{Rs } 2784$

Hence, S.P. of 80 articles = Rs 2784

S.P. of 1 article = Rs $\frac{2784}{80} = \text{Rs } 34.80$

S.P. of each article is Rs 34.80.

Q.4 The cost of an article was Rs 15,500. Rs450 were spent on its repairs. If it is sold for a profit of 15%, find the selling price of the article.

Sol: Given, C.P. = Rs 15,500, repair cost = Rs 450

Total C.P. = Rs 15500 + Rs 450 = Rs 15950

Let C.P be Rs 100, then S.P. = Rs 100 + Rs 15 = Rs115

Now, when C.P. is 100, then S.P. = 115

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

When S.P. is Rs 15950, then S.P. = Rs $\frac{115 \times 15950}{100} = \frac{1834250}{100} = \text{Rs } 18342.50$.

Q.5: A VCR and TV were bought for Rs 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.

Sol: Given cost price of VCR = Rs 8000

Cost price of TV = Rs 8000

Total cost of both articles = Rs 8000 + Rs 8000 = Rs 16,000

VCR is sold at 4% loss.

Let C.P. of each article be Rs 100

$$\text{S.P. of VCR} = 100 - 4 = \text{Rs } 96$$

Now, when C.P. is Rs 100, then S.P. = Rs96

$$\text{when C.P. is Rs 1, then S.P.} = \text{Rs } \frac{96}{100}$$

$$\text{When C.P. IS Rs 8000, then S.P.} = 96 \times \frac{8000}{100} = \text{Rs } 7680$$

T.V. is sold at 8% profit.

$$\text{When C.P. of TV be Rs 100, then S.P.} = \text{Rs } 100 + \text{Rs } 8 = \text{Rs } 108$$

$$\text{When C.P. is Rs } 100, \text{ then S.P.} = \text{Rs } 108$$

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

$$\text{When C.P. IS Rs } 8,000, \text{ then S.P.} = \text{Rs } \frac{108 \times 8000}{100} = \text{Rs } 8,640$$

$$\text{Total S.P.} = \text{Rs } 7,680 + \text{Rs } 8,640 = \text{Rs } 16,320$$

Since S.P. > C.P.

$$\text{Hence, profit} = \text{S.P.} - \text{C.P.} = \text{Rs } 16320 - \text{Rs } 16000 = \text{Rs } 320$$

$$\text{Profit \%} = \frac{320 \times 100}{16000} = \frac{32000}{16000} = 2\%.$$

Q.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 Rs1450 and two shirts marked at Rs850 each?

Sol: Given rate of discount on all items = 10%

$$\text{M.P. of a pair of jeans} = \text{Rs } 1450$$

$$\text{M.P. of a shirt} = \text{Rs } 850$$

$$\text{Discount on a pair of Jeans} = \frac{(\text{Rate} \times \text{M.P.})}{100} = \frac{1450 \times 10}{100} = \text{Rs } 145$$

$$\text{S.P. of a pair of jeans} = \text{Rs } 1450 - \text{Rs } 145 = \text{Rs } 1305$$

M.P. of two shirts = $2 \times \text{Rs}850 = \text{Rs}1700$

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

S.P. of two shirts = $\text{Rs}1700 - \text{Rs}170 = \text{Rs}1530$

The customer had to pay = $\text{Rs}1305 + \text{Rs}1530 = \text{Rs} 2,835$.

Q.7 A milkman sold two of his buffaloes for Rs 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)

Sol: Given, S.P. of each buffalo = Rs 20,000

S.P. of two buffaloes = $\text{Rs} 20,000 \times 2 = \text{Rs} 40,000$

One buffalo is sold at 5% gain.

Let C.P. be Rs100, then S.P. = $\text{Rs}100 + \text{Rs}5 = \text{Rs}105$

When S.P. is Rs105, then C.P. = Rs100

When S.P. is Rs 20,000, then C.P. = $\frac{\text{Rs}100 \times 20,000}{105}$

$$= \text{Rs} \frac{2,000,000}{105} = \text{Rs}19047.619 = \text{Rs}19047.62$$

Another buffalo is sold at loss of 10%.

Let C.P. be Rs 100, then S.P. = $\text{Rs} 100 - \text{Rs} 10 = \text{Rs} 90$

When S.P. is Rs 90, then C.P. = Rs 100

When S.P. is Rs 20,000 then C.P. = $\text{Rs} \frac{100 \times 20000}{90} = \frac{2000000}{90} = \text{Rs} 22,222.22$

C.P. = $\text{Rs} 19,047.62 + \text{Rs} 22,222.22 = \text{Rs} 41,269.84$

C.P. > S.P. \Rightarrow Loss = C.P. - S.P.

$$= \text{Rs} 41,269.84 - \text{Rs} 40,000 = \text{Rs} 1,269.84.$$

Q.8 The price of a TV is Rs 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.

Sol: Given, C.P. = Rs 13,000, S.T. rate = 12%

Here, Sale Tax rate 12% means purchaser has to pay Rs 12 On each Rs 100.

So, S.P' for purchaser = Rs 100 + Rs 12 = Rs 112

When, C.P. is f 100, then S.P. = Rs 112

When C.P. is f 13,000 then S.P. = Rs $\frac{13000 \times 112}{100}$

= Rs $\frac{1456000}{100}$ = Rs 14,560.

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

Sol: Given, S.P. = Rs 1,600, Rate of discount = 20%

Let M.P. be Rs 100. And 20% discount means,

On M.P. Rs 100, customer is given Rs 20 off.

So, S.P. = Rs 100 - Rs 20 = Rs 80

When S.P. is Rs 80 then M.P. = Rs 100

When S.P. IS f 1600, then M.P. = Rs $\frac{100 \times 1600}{80}$ = Rs $\frac{160000}{80}$ = Rs 2,000

Hence, M.P. is Rs 2,000.

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

Sol: Given, C.P. = Rs 5400 Rate of VAT = 8%

Let C.P. without VAT is Rs 100 then price including VAT is (Rs 100 + Rs 8) = Rs 108.

When price including VAT is Rs 108, then original price = Rs 100

Hence, price including VAT is f 5400, then the original price = Rs $\frac{100 \times 5400}{108}$ = Rs 5,000