



NCERT Solutions for class 8 maths chapter 8 comparing quantities  
Ex-8.2

**Q1.** A man got 10% increase in his salary. If his new salary is Rs.1,54,000, find his original salary.

**Ans.** Let original salary be Rs.100.

Therefore New salary i.e., 10% increase

$$= 100 + 10 = \text{Rs.}110$$

$\therefore$  New salary is Rs.110, when original salary = Rs.100

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

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

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

**Q2.** 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?

**Ans.** On Sunday, people went to the Zoo

$$= 845$$

On Monday, people went to the Zoo = 169

Number of decrease in the people

$$= 845 - 169 = 676$$

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

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

**Q3.** A shopkeeper buys 80 articles for Rs.2,400 and sells them for a profit of 16%. Find the selling price of one article.

**Ans.** No. of articles = 80

Cost Price of articles = Rs. 2,400  
And Profit = 16%

$\therefore$  Cost price of articles is Rs.100, then selling price =  $100 + 16 = \text{Rs.}116$

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

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

Hence, Selling Price of 80 articles = Rs.2784

Therefore Selling Price of 1 article

=  $\frac{2784}{80} = \text{Rs.}34.80$

**Q4.** The cost of an article was Rs.15,500, Rs.450 were spent on its repairs. If it sold for a profit of 15%, find the selling price of the article.

**Ans.** Here, C.P. = Rs.15,500 and Repair cost = Rs.450

Therefore Total Cost Price =  $15500 + 450 = \text{Rs.}15,950$

Let C.P be Rs.100, then S.P. =  $100 + 15 = \text{Rs.}115$

$\therefore$  When C.P. is Rs.100, then S.P. = Rs.115

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

$$\therefore \text{When C.P. is Rs.15950, then S.P.}$$

$$= \frac{115}{100} \times 15950 = \text{Rs.18,342.50}$$

**Q5.** 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 percent on the whole transaction.

**Ans.** Cost price of VCR = Rs.8000 and Cost price of TV = Rs.8000

Total Cost Price of both articles

$$= \text{Rs.8000} + \text{Rs.8000} = \text{Rs. 16,000}$$

Now VCR is sold at 4% loss.

Let C.P. of each article be Rs.100, then S.P. of VCR =  $100 - 4 = \text{Rs.96}$

$$\therefore \text{When C.P. is Rs.100, then S.P.} = \text{Rs.96}$$

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

$$\therefore \text{When C.P. is Rs.8000, then S.P.}$$

$$= \frac{96}{100} \times 8000 = \text{Rs.7,680}$$

And TV is sold at 8% profit, then S.P. of TV =  $100 + 8 = \text{Rs.108}$

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

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

∴ When C.P. is Rs.8000, then S.P.

$$= \frac{108}{100} \times 8000 = \text{Rs.}8,640$$

Then, Total S.P.

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

Since S.P. > C.P.,

Therefore Profit = S.P. – C.P.

$$= 16320 - 16000 = \text{Rs.}320$$

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

$$= \frac{320}{16000} \times 100 = 2\%$$

**Q6.** 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 Rs.1450 and two shirts marked at Rs.850 each?

**Ans.** Rate of discount on all items = 10%

Marked Price of a pair of jeans = Rs.1450 and

Marked Price of a shirt = Rs.850

Discount on a pair of jeans

$$= \frac{\text{Rate} \times \text{M.P.}}{100} = \frac{10 \times 1450}{100} = \text{Rs.}145$$

∴ S.P. of a pair of jeans = Rs.1450 – Rs.145

$$= \text{Rs.}1305$$

Marked Price of two shirts =  $2 \times 850$

$$= \text{Rs.}1700$$

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

$$= \text{Rs.170}$$

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

$$= \text{Rs.1530}$$

Therefore the customer had to pay

$$= 1305 + 1530$$

= Discount on a pair of jeans

$$= \frac{\text{Rate} \times \text{M.P.}}{100} = \frac{10 \times 1450}{100}$$

$$= \text{Rs.145}$$

$$\therefore \text{S.P. of a pair of jeans}$$

$$= \text{Rs.1450} - \text{Rs.145} = \text{Rs.2,835}$$

**Q7.** 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)

**Ans.** S.P. of each buffalo = Rs.20,000

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

$$= \text{Rs.40,000}$$

One buffalo is sold at 5% gain.

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

$$= \text{Rs.105}$$

$$\therefore \text{When S.P. is Rs.105, then C.P.} = \text{Rs.100}$$

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

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

Another buffalo is sold at 10% loss.

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

$$\therefore \text{When S.P. is Rs.90, then C.P.} = \text{Rs.100}$$

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

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

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

Since C.P. > S.P.

Therefore here it is loss.

$$\text{Loss} = \text{C.P.} - \text{S.P.} \\ = \text{Rs.41,269.84} - \text{Rs.40,000.00} = \text{Rs.1,269.84}$$

**Q8.** 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.

**Ans.** C.P. = Rs.13,000 and S.T. rate = 12%

$$\text{Let C.P. be Rs.100, then S.P. for purchaser} \\ = 100 + 12 = \text{Rs.112}$$

$$\therefore \text{When C.P. is Rs.100, then S.P.} = \text{Rs.112}$$

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

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

**Q9.** 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.

**Ans.** S.P. = Rs.1,600 and Rate of discount  
= 20%

Let M.P. be Rs.100, then S.P. for customer

$$= 100 - 20 = \text{Rs.}80$$

$\therefore$  When S.P. is Rs.80, then M.P. = Rs.100

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

$\therefore$  When S.P. is Rs.1600, then M.P.

$$= \frac{100}{80} \times 1600 = \text{Rs.}2,000$$

**Q10.** I purchased a hair-dryer for Rs.5,400 including 8% VAT. Find the price before VAT was added.

**Ans.** C.P. = Rs.5,400 and Rate of VAT = 8%

Let C.P. without VAT is Rs. 100, then price including VAT =  $100 + 8 = \text{Rs.}108$

$\therefore$  When price including VAT is Rs.108, then original price = Rs.100

$\therefore$  When price including VAT is Rs.1, then

$$\text{original price} = \frac{100}{108}$$

$\therefore$  When price including VAT is Rs.5400, then

$$\text{original price} = \frac{100}{108} \times 5400 = \text{Rs.}5000$$

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