

NCERT SOLUTIONS OF comparing quantities Exercise 2

Question 1

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

Answer:

In these questions, there are two parts, First is the original quantity and second part is the % increase in the quantity. The final quantity will be the sum of original quantity and % increase quantity

Let us assume the original salary is y , then

$$y + 10\% \text{ of } y = \text{New salary} = 154000$$

$$y + 10y/100 = 154000$$

$$11y/10 = 154000$$

$$y = 1540000/11 = \text{Rs } 140000$$

Question 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?

Answer: Actual decrease in number of visits

$$= 845 - 169 = 676$$

So % decrease

$$= (676/845) \times 100 = 80\%$$

Question 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.

Answer:

Cost price of one article = $2400/80=30$

Now we know that Profit = CP x % profit

$$= 30 \times (16/100) = 4.80$$

Now Selling price = Cost Price + Profit
 $= 30 + 4.8 = 34.8$

Question 4

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

Answer

Final cost price of the article after the repairs will be

CP = Cost + Overheads

$$= 15500 + 450 = 15950$$

Profit = CP x % profit

$$= 15950 \times (15/100) = 2392.50$$

Now Selling price = Cost Price + Profit
 $= 15950 + 2392.50 = 18342.50$

Question 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 percent on the whole transaction.

Answer

Cost price of each article=8000

Now Profit on TV = Cost price \times profit %

$$=8000 \times (8/100) = 640$$

Now loss on VCR = Cost price \times Loss %

$$=8000 \times (4/100) = 320$$

Since profit is more than loss, it gains net profit

$$\text{Net Profit} = 640 - 320 = 320$$

Now

Total cost Price of product=16000

So Profit % = $(320/16000) \times 100$

$$=2\%$$

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 Rs 1450 and two shirts marked at Rs 850 each?

Answer:

Total Price of a pair of jeans and two shirts

$$= 1450 + 2 \times 850 = 3150$$

Discount = Marked Price \times % Discount

$$=3150 \times (10/100) = 315$$

$$\text{Effective Price After Discount} = 3150 - 315 = 2835$$

Question 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.

Answer: Suppose the CP of buffaloes are a and b respectively

After 5% profit, $SP = a + \frac{5a}{100} = \frac{105a}{100}$

After 10% loss $SP = b - \frac{10b}{100} = \frac{90b}{100}$

Now

$$\frac{105a}{100} = 20,000$$

$$a = 20,000 \times \left(\frac{100}{105}\right)$$

$$\text{Profit on One buffalo} = SP - CP = 20,000 - 20,000 \times \left(\frac{100}{105}\right)$$

$$= \frac{20000}{21} = 952.385$$

Now

$$\frac{90b}{100} = 20,000$$

$$b = 20,000 \times \left(\frac{100}{90}\right)$$

$$\text{Loss on another buffalo} = CP - SP = 20,000 \times \left(\frac{100}{90}\right) - 20,000$$

$$= \frac{20000}{9} = 2222.222$$

As Loss is greater than profit, he get net loss

$$\text{Net loss} = 1269.84$$

Question 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.

Answer: Sales Tax = Price x Tax Rate

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$$=13000 \times (12/100)=1560$$

$$\text{Final Price} = 13000 + 1560 = 14560$$

Question 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.

Answer

Let the marked price be a

So final selling price after discount

$$=a - a \times (20/100)$$

$$=.8a$$

$$\text{Now } .8a = 1600$$

$$a=2000$$

Question 10

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

Answer

Let a be the price before VAT

$$\text{So selling price} = a + a \times (8/100)$$

$$=1.08a$$

$$\text{Now } 1.08a=5400$$

$$a=5000$$