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

\[ y + 10\% \text{ of } y = \text{ New salary} = 154000 \]
\[ y + \frac{10y}{100} = 154000 \]
\[ 11y = 154000 \]
\[ y = \frac{154000}{11} = \text{ Rs 140000} \]

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

\[ = \left( \frac{676}{845} \right) \times 100 = 80\% \]

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 × (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 × (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**

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Cost price of each article = 8000

Now Profile on TV = Cost price × profit %

= 8000 × (8/100) = 640

Now loss on VCR = Cost price × Loss %

= 8000 × (4/100) = 320

Since profile is more than loss, it gains net profile

Net Profit = 640 - 320 = 320

Now

Total cost Price of product = 16000

So Profit % = (320/16000) × 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 × 850 = 3150

Discount = Marked Price × % Discount

= 3150 × (10/100) = 315

Effective Price After Discount = 3150 - 315 = 2835

**Question 7**

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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

\[ \frac{105a}{100} = 20,000 \]

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

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

\[ = \frac{20000}{21} = 952.385 \]

Now

\[ \frac{90b}{100} = 20,000 \]

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

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

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 \times \text{Tax Rate}

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=13000 \times (12/100)=1560

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

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

So selling price = a + a \times (8/100)

=1.08a

Now 1.08a=5400

a=5000