Access answers to Maths NCERT Solutions for Class 7 Chapter 8 – Comparing Quantities Exercise 8.3

1. Tell what is the profit or loss in the following transactions. Also find profit per cent or loss per cent in each case.

(a) Gardening shears bought for □ 250 and sold for □ 325.

Solution:-

From the question, it is given that

Cost price of gardening shears = □ 250

Selling price of gardening shears = □ 325

Since (SP) > (CP), so there is a profit

Profit = (SP) – (CP)

= □ (325 – 250)

= □ 75

Profit % = {(Profit/CP) × 100}

= {(75/250) × 100}

= {7500/250}

= 750/25

= 30%

(b) A refrigerator bought for □ 12,000 and sold at □ 13,500.

Solution:-

From the question, it is given that

Cost price of refrigerator = □ 12000

Selling price of refrigerator = □ 13500

Since (SP) > (CP), so there is a profit

Profit = (SP) – (CP)

= □ (13500 – 12000)

= □ 1500

Profit % = {(Profit/CP) × 100}

= {(1500/12000) × 100}

= {150000/12000}

= 150/12

= 12.5%

(c) A cupboard bought for □ 2,500 and sold at □ 3,000.

Solution:-

From the question, it is given that

Cost price of cupboard = □ 2500

Selling price of cupboard = □ 3000

Since (SP) > (CP), so there is a profit

Profit = (SP) – (CP)

= □ (3000 – 2500)

= □ 500

Profit % = {(Profit/CP) × 100}

= {(500/2500) × 100}

= {50000/2500}

= 500/25

= 20%

(d) A skirt bought for □ 250 and sold at □ 150.

Solution:-

Since (SP) < (CP), so there is a loss

Loss = (CP) – (SP)

= □ (250 – 150)

= □ 100

Loss % = {(Loss/CP) × 100}

= {(100/250) × 100}

= {10000/250}

= 40%

2. Convert each part of the ratio to percentage:

(a) 3 : 1

Solution:-

We have to find total parts by adding the given ratio = 3 + 1 = 4

1st part = ¾ = (¾) × 100 %

= 3 × 25%

= 75%

2nd part = ¼ = (¼) × 100%

= 1 × 25

= 25%

(b) 2: 3: 5

Solution:-

We have to find total parts by adding the given ratio = 2 + 3 + 5 = 10

1st part = 2/10 = (2/10) × 100 %

= 2 × 10%

= 20%

2nd part = 3/10 = (3/10) × 100%

= 3 × 10

= 30%

3rd part = 5/10 = (5/10) × 100%

= 5 × 10

= 50%

(c) 1:4

Solution:-

We have to find total parts by adding the given ratio = 1 + 4 = 5

1st part = (1/5) = (1/5) × 100 %

= 1 × 20%

= 20%

2nd part = (4/5) = (4/5) × 100%

= 4 × 20

= 80%

(d) 1: 2: 5

Solution:-

We have to find total parts by adding the given ratio = 1 + 2 + 5 = 8

1st part = 1/8 = (1/8) × 100 %

= (100/8) %

= 12.5%

2nd part = 2/8 = (2/8) × 100%

= (200/8)

= 25%

3rd part = 5/8 = (5/8) × 100%

= (500/8)

= 62.5%

3. The population of a city decreased from 25,000 to 24,500. Find the percentage decrease.

Solution:-

From the question, it is given that

Initial population of the city = 25000

Final population of the city = 24500

Population decrease = Initial population – Final population

= 25000 – 24500

= 500

Then,

Percentage decrease in population = (population decrease/Initial population) × 100

= (500/25000) × 100

= (50000/25000)

= 50/25

= 2%

4. Arun bought a car for □ 3,50,000. The next year, the price went upto □ 3,70,000. What was the Percentage of price increase?

Solution:-

From the question, it is given that

Arun bought a car for = □ 350000

The price of the car in the next year, went up to = □ 370000

Then increase in price of car = □ 370000 – □ 350000

= □ 20000

The percentage of price increase = (□ 20000/ □ 350000) × 100

= (2/35) × 100

= 200/35

= 40/7

= $5\frac{5}{7}$

5. I buy a T.V. for □ 10,000 and sell it at a profit of 20%. How much money do I get for it?

Solution:-

From the question, it is given that

Cost price of the T.V. = □ 10000

Percentage of profit = 20%

Profit = (20/100) × 10000

= □ 2000

Then,

Selling price of the T.V. = cost price + profit

= 10000 + 2000

= □ 12000

∴ I will get it for □ 12000.

6. Juhi sells a washing machine for □ 13,500. She loses 20% in the bargain. What was the price at which she bought it?

Solution:-

From the question, it is given that

Selling price of washing machine = □ 13500

Percentage of loss = 20%

Now, we have to find the cost price washing machine

By using the formula, we have:

CP = □ {(100/ (100 – loss %)) × SP}

= {(100/ (100 – 20)) × 13500}

= {(100/ 80) × 13500}

= {1350000/80}

= {135000/8}

= □ 16875

7. (i) Chalk contains calcium, carbon and oxygen in the ratio 10:3:12. Find the percentage of carbon in chalk.

Solution:-

From the question it is given that,

The ratio of calcium, carbon and oxygen in chalk = 10: 3: 12

So, total part = 10 + 3 + 12 = 25

In that total part amount of carbon = 3/25

Then,

Percentage of carbon = (3/25) × 100

= 3 × 4

= 12 %

(ii) If in a stick of chalk, carbon is 3g, what is the weight of the chalk stick?

Solution:-

From the question it is given that,

Weight of carbon in the chalk = 3g

Let us assume the weight of the stick be x

Then,

12% of x = 3

(12/100) × (x) = 3

X = 3 × (100/12)

X = 1 × (100/4)

X = 25g

∴The weight of the stick is 25g.

8. Amina buys a book for □ 275 and sells it at a loss of 15%. How much does she sell it for?

Solution:-

From the question, it is given that

Cost price of book = □ 275

Percentage of loss = 15%

Now, we have to find the selling price book,

By using the formula, we have:

SP = {((100 – loss %) /100) × CP)}

= {((100 – 15) /100) × 275)}

= {(85 /100) × 275}

= 23375/100

= □ 233.75

9. Find the amount to be paid at the end of 3 years in each case:

(a) Principal = □ 1,200 at 12% p.a.

Solution:-

Given: – Principal (P) = □ 1200, Rate (R) = 12% p.a. and Time (T) = 3years.

If interest is calculated uniformly on the original principal throughout the loan period, it is called Simple interest (SI).

SI = (P × R × T)/100

= (1200 × 12 × 3)/ 100

= (12 × 12 × 3)/ 1

= □432

Amount = (principal + SI)

= (1200 + 432)

= □ 1632

(b) Principal = □ 7,500 at 5% p.a.

Solution:-

Given: – Principal (P) = □ 7500, Rate (R) = 5% p.a. and Time (T) = 3years.

If interest is calculated uniformly on the original principal throughout the loan period, it is called Simple interest (SI).

SI = (P × R × T)/100

= (7500 × 5 × 3)/ 100

= (75 × 5 × 3)/ 1

= □ 1125

Amount = (principal + SI)

= (7500 + 1125)

= □ 8625

10. What rate gives □ 280 as interest on a sum of □ 56,000 in 2 years?

Solution:-

Given: – P = □ 56000, SI = □ 280, t = 2 years.

We know that,

R = (100 × SI) / (P × T)

= (100 × 280)/ (56000 × 2)

= (1 × 28) / (56 × 2)

= (1 × 14) / (56 × 1)

= (1 × 1) / (4 × 1)

= (1/ 4)

= 0.25%

11. If Meena gives an interest of □ 45 for one year at 9% rate p.a. What is the sum she has borrowed?

Solution:-

From the question it is given that, SI = □ 45, R = 9%, T = 1 year, P =?

SI = (P × R × T)/100

45 = (P × 9 × 1)/ 100

P = (45 ×100)/ 9

= 5 × 100

= □ 500

Hence, she borrowed □ 500.