NCERT Solutions For Class 7 Maths Comparing Quantities Exercise 8.3

Q1. Tell what is the profit or loss in the following transactions. Also find profit
percent or loss percent in each case.

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

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

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

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

Ans:

(a) Cost price = Rs 250

Selling price = Rs 325

Profit = 325 - 250 = Rs 75

$$\text{Profit \%} = \frac{\text{Profit}}{\text{CP}} \times 100$$

$$= \frac{75}{250} \times 100 = 30\%$$

(b) Cost price = Rs 12000

Selling price = Rs 13,500

Profit = 13500 - 12000 = Rs 1500

$$\text{Profit \%} = \frac{\text{Profit}}{\text{CP}} \times 100$$

$$\text{Profit \%} = \frac{1500}{12000} \times 100 = 12.5\%$$

(c) Cost price = Rs 2500

Selling price = Rs 3000

Profit = 3000 - 2500 = Rs 500

$$\text{Profit \%} = \frac{\text{Profit}}{\text{CP}} \times 100$$

$$\text{Profit \%} = \frac{500}{2500} \times 100 = 20\%$$

(d) Cost price = Rs 250

Selling price = Rs 150

Loss = 250 - 150 = Rs 100

$$\text{Loss \%} = \frac{\text{Loss}}{\text{CP}} \times 100$$

$$\text{Loss \%} = \frac{100}{250} \times 100 = 40\%$$

Q2. Convert each part of the ratio to percentage:
(a) 3:1 (b) 2:3:5 (c) 1:4 (d) 1:2:5

Ans:

(a) 3: 1

Total parts = 3 + 1 = 4

$$\text{1st part} = \frac{3}{4} = \frac{3}{4} \times 100\% = 75\%$$

$$\text{2nd part} = \frac{1}{4} = \frac{1}{4} \times 100\% = 25\%$$

(b) 2: 3: 5

Total parts = 2 + 3 + 5 = 10

$$\text{1st part} = \frac{2}{10} = \frac{2}{10} \times 100\% = 20\%$$

$$\text{2nd part} = \frac{3}{10} = \frac{3}{10} \times 100\% = 30\%$$

$$\text{3rd part} = \frac{5}{10} = \frac{5}{10} \times 100\% = 50\%$$

(c) 1: 4

Total parts =1 + 4 = 5

$$\text{1st part} = \frac{1}{5} = \frac{1}{5} \times 100\% = 20\%$$

$$\text{2nd part} = \frac{4}{5} = \frac{4}{5} \times 100\% = 80\%$$

(d) 1: 2: 5

Total parts = 1 + 2 + 5 = 8

$$\text{1st part} = \frac{1}{8} = \frac{1}{8} \times 100\% = 12.5\%$$

$$\text{2nd part} = \frac{2}{8} = \frac{2}{8} \times 100\% = 25\%$$

$$\text{3rd} = \frac{5}{8} = \frac{5}{8} \times 100\% = 62.5\%$$

Q3. The population of a city decreased from 25,000 to 24,500. Find the percentage decrease.
Ans:

Initial population = 25000

Final population = 24500

Decrease = 500

$$\% \text{ decrease} = \frac{500}{25000} \times 100 = 2\%$$

Q4. Arun bought a car for Rs 3,50,000. The next year, the price went upto
Rs 3,70,000. What was the percentage of price increase?

Ans:

Initial price = Rs 350000

Final price = Rs 370000

Increase = Rs 20000

$$\% \text{ increase} = \frac{20000}{350000} \times 100$$

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

Q5. I buy a T.V. for Rs 10,000 and sell it at a profit of 20%. How much money do I get for it?

Ans:

Cost price = Rs 10000

Profit = 20% of 10000

$$= \frac{20}{100} \times 10000$$

= Rs 2000

Selling price = Cost price + Profit

= 10000 + 2000 = Rs 12,000

Q6. Juhi sells a washing machine for Rs 13, 500. She loses 20% in the bargain. What was the price at which she bought it?

Ans:

Selling price = Rs 13500

Loss % = 20%

Let the cost price be x.

$\therefore$ Loss = 20% of x

Cost price - Loss = Selling price

$$x - \frac{20}{100} \times x = 13500$$

$$x - \frac{1}{5}x = 13500$$

$$\frac{4}{5}x = 13500$$

$$x = 13500 \times \frac{5}{4}$$

= 16875

Therefore, she bought it for Rs 16875.

Q7. (i) Chalk contains calcium, carbon and oxygen in the ratio 10:3:12. Find the percentage of carbon in chalk.

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

Ans:

(i) Ratio of calcium, carbon, and oxygen = 10: 3: 12

As 10 + 3 +12 = 25,

Therefore, percentage of carbon $= \frac{3}{25} \times 100 = 12\%$

(ii) Let the weight of the stick be x g.

12 % of x = 3

$$\frac{12}{100} \times x = 3$$

$$x = 3 \times \frac{100}{12} = 25 \text{ g}$$

Q8. Amina buys a book for Rs 275 and sells it at a loss of 15%. How much does she sell it for?

Ans:

Cost price = Rs 275

Loss % = 15%

Loss = 15% of 275

Cost price - Loss = Selling price

$$275 - \frac{15}{100} \times 275 = \text{Selling price}$$

$$275 - \frac{4125}{100} = \text{Selling price}$$

275 - 41.25 = Selling price

Selling price = Rs 233.75

Q9. Find the amount to be paid at the end of 3 years in each case:
(a) Principal = Rs 1,200 at 12% p.a.

(b) Principal = Rs 7,500 at 5% p.a.

Ans: (a) Principal (P) = Rs 1200

Rate (R) = 12 % p.a.

Time (T) = 3 years

$$\text{S.I.} = \frac{P \times R \times T}{100}$$

$$= \frac{1200 \times 12 \times 3}{100}$$

= Rs 432

Amount = P + S.I.

= 1200 + 432

= Rs 1632

(b) P = Rs 7500

R = 5% p.a.

T = 3 years

$$\text{S.I.} = \frac{P \times R \times T}{100}$$

$$= \frac{7500 \times 5 \times 3}{100}$$

= Rs 1125

Amount = 7500 + 1125

= Rs 8625

Q10. What rate gives Rs 280 as interest on a sum of Rs 56,000 in 2 years?

Ans:

$$S.I = \frac{P \times R \times T}{100}$$

$$280 = \frac{56000 \times R \times 2}{100}$$

$$R = \frac{280}{560 \times 2} = \frac{1}{4} = 0.25$$

Therefore, 0.25% gives Rs 280 as interest on the given sum.

Q11. If Meena gives an interest of Rs 45 for one year at 9% rate p.a.. What is the sum she has borrowed?

Ans:

$$S.I = \frac{P \times R \times T}{100}$$

$$45 = \frac{P \times 9 \times 1}{100}$$

$$P = \frac{45 \times 100}{9}$$

= Rs 500

Therefore, she borrowed Rs 500.

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