NCERT Solutions for Class 7 Maths Chapter 8 Comparing Quantities Ex 8.3

Ex 8.3 Class 7 Maths Question 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.

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

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

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

Solution:

(a) Here, CP = ₹ 250
SP = ₹ 325
Since SP > CP
∴ Profit = SP - CP
= ₹ 325 - ₹ 250 = ₹ 75

÷	Profit% =	$\operatorname{Profit} imes 100$
		CP
		$\frac{75}{250} \times 100 = 30\%$

Hence, the required profit = ₹75and Profit per cent = 30%

(b) Here, CP = ₹ 12,000 SP = ₹ 13,500 Since SP > CP ∴ Profit = SP - CP = ₹ 13,500 - ₹ 12,000 = ₹ 1,500 Profit % = $\frac{\text{Profit}}{\text{CP}} \times 100 = \frac{1500 \times 100}{12000}$ = $\frac{25}{2}$ % = $12\frac{1}{2}$ %

Hence, the required profit = ₹ 1500 × 100 profit % = $12\frac{1}{2}$ %

(c) Here, CP = ₹ 2500 SP = ₹ 3000 Since SP > CP ∴ Profit = SP - CP = ₹ 3000 - ₹ 2500 = ₹ 500 ∴ Profit% = $\frac{\text{Profit}}{\text{CP}} \times 100$ = $\frac{500}{2500} \times 100 = 20\%$

Hence, the required profit = ₹ 500 and profit% = 20%

(d) Here, CP = ₹ 250
SP = ₹ 150
Here CP > SP
∴ Loss = CP - SP
= ₹ 250 - ₹ 150 = ₹ 100

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

Hence, the required loss = ₹ 100 and loss% = 40%

Ex 8.3 Class 7 Maths Question 2. Convert each part of the ratio to Percentage: (a) 3:1 (b) 2:3:5 (c) 1 : 4 (d) 1:2:5 Solution: (a) 3 : 1 Sum of the ratio parts = 3 + 1 = 4Percentage of first part = $\frac{3}{4} \times 100 = 75\%$ Percentage of second part = $\frac{1}{4} \times 100 = 25\%$ (b) 2:3:5 Sum of the ratio parts = 2 + 3 + 5 = 10 Percentage of first part = $\frac{2}{10} \times 100 = 20\%$ Percentage of second part = $\frac{3}{10} \times 100 = 30\%$ Percentage of third part = $\frac{5}{10} \times 100 = 50\%$

(c) 1 : 4 Sum of the ratio parts =1 + 4 = 5 Percentage of first part = $\frac{1}{5} \times 100 = 20\%$ Percentage of second part = $\frac{4}{5} \times 100 = 80\%$

Percentage of first part = $\frac{1}{8} \times 100 = 12\frac{1}{2}\%$ Percentage of second part = $\frac{2}{8} \times 100 = 25\%$ Percentage of third part = $\frac{5}{8} \times 100 = 62\frac{1}{2}\%$

Ex 8.3 Class 7 Maths Question 3.

The population of a city decreased from 25,000 to 24,500. Find the Percentage decrease. Solution: Initial population = 25,000 Decreased population = 24,500 Decrease in population = 25,000 - 24,500 = 500 Percentage of decrease = $\frac{500 \times 100}{25000}$ = 2%

Hence the Percentage of decrease in population = 2%.

Ex 8.3 Class 7 Maths Question 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:

Original price of the car = ₹ 3,50,000

Price increased next year = ₹ 3,70,000

Increase in price = ₹ 3,70,000 - ₹ 3,50,000

= ₹ 20,000

 \therefore Percentage of the increase in the price

$$=\frac{20,000\times100}{3,50,000}=\frac{40}{7}\%=5\frac{5}{7}\%$$

Hence, the Percentage of increase in price = $5\frac{5}{7}\%$

Ex 8.3 Class 7 Maths Question 5.

I buy a TV for ₹ 10,000 and sell it at a profit of 20%. How much money do I get for it?

Solution:

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Here, CP = ₹ 10,000
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Profit = 20%

SP = ?

SP = CP
$$\left(1 + \frac{\text{Profit}}{100}\right)$$
 = 10,000 $\left(1 + \frac{20}{100}\right)$
= 10,000 × $\frac{6}{5}$ = ₹ 12,000

Hence, the required money got by me = ₹ 12,000.

Ex 8.3 Class 7 Maths Question 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: SP of the washing machine = ₹ 13,500 Loss = 20% CP = ?

$$SP = CP\left(1 - \frac{Loss}{100}\right)$$

$$13500 = CP\left(1 - \frac{20}{100}\right)$$

$$\Rightarrow \qquad 13500 = CP\left(1 - \frac{1}{5}\right)$$

$$\Rightarrow \qquad 13500 = CP \times \frac{4}{5}$$

$$\therefore \qquad CP = 13500^{-3375} \times \frac{5}{\cancel{4}}$$

$$= 3375 \times 5 = \cancel{1}6875$$

Hence, the cost price of the machine = ₹ 16875.

Ex 8.3 Class 7 Maths Question 7.

(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 3 g, what is the weight of the chalk stick?

Solution:

(i) Sum of the ratio parts = 10 + 3 + 12 = 25

 \therefore Percentage of carbon in chalk

$$==rac{3}{25} imes 100\%=12\%$$

Hence, the Percentage of carbon in chalk = 12%

(ii) Weight of carbon = 3 g \therefore Weight of chalk = $=\frac{3}{3} \times 25$ g = 25 g

Hence, the weight of chalk = 25 g

Ex 8.3 Class 7 Maths Question 8.

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

CP of book = ₹ 275

Loss = 15%

$$\therefore \qquad \text{SP} = \text{CP}\left(1 - \frac{\text{Loss}}{100}\right) = 275\left(1 - \frac{15}{100}\right)$$
$$= 275 \times \frac{\cancel{85}^{17}}{\cancel{100}_{20}} = \frac{4675}{20} = ₹ 233.75$$

Ex 8.3 Class 7 Maths Question 9. Find the amount to be paid at the end of 3 years in each case. (a) Principal = ₹ 1200 at 12% p.a. (b) Principal = ₹ 7500 at 5% p.a. Solution: (a) Given: Principal = ₹ 1200 Rate of interest = 12% p.a., T = 3 years \therefore Interest = $\frac{P \times R \times T}{100} = \frac{1200 \times 12 \times 3}{100}$ Amount = Principal + Interest = ₹ 1200 + ₹ 432 = ₹ 1632 Hence, the required amount = ₹ 1632 (b) Given: Principal = ₹ 7500 Rate = 5% p.a. Time = 3 years : Interest = $\frac{P \times R \times T}{100} = \frac{7500 \times 5 \times 3}{100}$ = ₹1125 Amount = Principal + Interest = ₹ 7500 + 11125 = ₹ 8625 Hence, the required amount = ₹ 8625. Ex 8.3 Class 7 Maths Question 10.

What rate gives ₹ 280 as interest on a sum of ₹ 56,000 in 2 years? Solution:

Given: Principal = ₹ 56,000 Interest = ₹280 Time = 2 years Rate = ? Rate = $\frac{100 \times I}{P \times T} = \frac{100 \times 280}{56,000 \times 2}$ = $\frac{1}{4}$ % or 0.25%

Hence, the required rate = 0.25%

Ex 8.3 Class 7 Maths Question 11.

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

Given: Interest = ₹ 45

Time = 1 year

Rate = 9% p.a.

 $Principal = \frac{100 \times I}{R \times T} = \frac{100 \times 45}{9 \times 1} = ₹500$

Hence, the required sum = ₹ 500.