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(Chapter – 8) (Comparing Quantities) (Class – VII)

Exercise 8.3

Question 1:

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 \gtrless 250 and sold for \gtrless 325.
- (b) A refrigerator bought ₹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.

Answer 1:

(a) Cost price of gardening shears = ₹ 250 Selling price of gardening shears = ₹ 325 S.P. > C.P., therefore here is profit. Since, Profit = S.P. – C.P. = ₹325 – ₹250 = ₹75 *.*.. Now Profit% = $\frac{\text{Profit}}{CP} \times 100$ $=\frac{75}{250}\times100=30\%$ Therefore, Profit = ₹75 and Profit% = 30% (b) Cost price of refrigerator = ₹ 12,000 Selling price of refrigerator = ₹13,500 S.P. > C.P., Since. therefore here is profit. ÷. Profit = S.P. – C.P. = ₹13500 – ₹12000 = ₹1,500 Now Profit% = $\frac{\text{Profit}}{C.P} \times 100$ $=\frac{1500}{12000}\times100=12.5\%$ Therefore, Profit = ₹1,500 and Profit% = 12.5%(c) Cost price of cupboard = ₹ 2,500 Selling price of cupboard = ₹ 3,000 Since. S.P. > C.P., therefore here is profit. ÷. Profit = S.P. – C.P. = ₹3,000 – ₹2,500 = ₹ 500 Now Profit% = $\frac{\text{Profit}}{CP} \times 100$ $=\frac{500}{2500}\times 100 = 20\%$ Therefore, Profit = ₹ 500 and Profit% = 20%

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(d) Cost price of skirt = ₹ 250 Selling price of skirt = ₹ 150 Since, C.P. > S.P., therefore here is loss. ∴ Loss = C.P. - S.P. =₹250 - ₹150 = ₹100 Now Loss% = $\frac{\text{Loss}}{\text{C.P.}} \times 100$ $= \frac{100}{250} \times 100 = 40\%$ Therefore, Profit = ₹ 100 and Profit% = 40%

Question 2:

Convert each part of the ratio to percentage: (b) 2 : 3 : 5 (a) 3 : 1 (c) 1 : 4 (d) 1 : 2 : 5 Answer 2: (a) 3 : 1 Total part = 3 + 1 = 4Therefore, Fractional part = $\frac{3}{4}$: $\frac{1}{4}$ $\Rightarrow \quad \text{Percentage of parts} = \frac{3}{4} \times 100 : \frac{1}{4} \times 100$ Percentage of parts = 75% : 25% \Rightarrow (b) 2 : 3 : 5 Total part = 2 + 3 + 5 = 10Therefore, Fractional part = $\frac{2}{10}:\frac{3}{10}:\frac{5}{10}$ \Rightarrow Percentage of parts = $\frac{2}{10} \times 100: \frac{3}{10} \times 100: \frac{5}{10} \times 100$ \Rightarrow Percentage of parts = 20% : 30% : 50% (c) 1:4 Total part = 1 + 4 = 5Therefore, Fractional part = $\frac{1}{5}$: $\frac{4}{5}$ \Rightarrow Percentage of parts = $\frac{1}{5} \times 100 : \frac{4}{5} \times 100$ \Rightarrow Percentage of parts = 20% : 80% 2

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(d) 1:2:5

Total part = 1 + 2 + 5 = 8

Therefore, Fractional part = $\frac{1}{8}:\frac{2}{8}:\frac{5}{8}$

$$\Rightarrow \text{ Percentage of parts} = \frac{1}{8} \times 100 : \frac{2}{8} \times 100 : \frac{5}{8} \times 100$$

Percentage of parts = 12.5% : 25% : 62.5% \Rightarrow

Question 3:

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

Answer 3:

The decreased population of a city from 25,000 to 24,500. Population decreased = 25,000 - 24,500 = 500 Decreased Percentage = $\frac{\text{Population decreased}}{\text{Original population}} \times 100$ $=\frac{500}{25000}\times 100 = 2\%$

Hence, the percentage decreased is 2%.

Question 4:

Arun bought a car for ₹3,50,000. The next year, the price went up to ₹3,70,000. What was the percentage of price increase?

Answer 4:

Increased in price of a car from ₹ 3,50,000 to ₹ 3,70,000. Amount change = ₹ 3,70,000 – ₹ 3,50,000 = ₹ 20,000.

Increased percentage = $\frac{\text{Amount of change}}{\text{Original amount}} \times 100$ Therefore, $=\frac{20000}{350000}\times 100 = 5\frac{5}{7}\%$ Hence, the percentage of price increased is $5\frac{5}{7}\%$.



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Ouestion 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? **Answer 5:**

The cost price of T.V. = ₹ 10,000 Profit percent = 20% Profit = Profit% of C.P. Now, $=\frac{20}{100}\times 10000$ = ₹ 2,000 Selling price = C.P. + Profit = ₹10,000 + ₹2,000 = ₹ 12,000 Hence, he gets ₹12,000 on selling his T.V.

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?

Answer 6:

Selling price of washing machine = ₹13,500 Loss percent = 20%Let the cost price of washing machine be $\gtrless x$.

Since, Loss = Loss% of C.P.

\Rightarrow	Loss = 20% of $\gtrless x$ =	$=\frac{20}{x}$	$=\frac{x}{x}$
		100	5

S.P. = C.P. - LossTherefore,

 \Rightarrow

$$\Rightarrow \qquad 13500 = x - \frac{x}{5}$$
$$\Rightarrow \qquad 13500 = \frac{4x}{5}$$

$$\Rightarrow \qquad x = \frac{13500 \times 5}{4} = ₹16,875$$

Hence, the cost price of washing machine is ₹16,875.



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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?

Answer 7:

(i) Given ratio =
$$10: 3: 12$$

Total part = $10 + 3 + 12 = 25$
Part of Carbon = $\frac{3}{25}$
Percentage of Carbon part in chalk = $\frac{3}{25} \times 100 = 12\%$
(ii) Quantity of Carbon in chalk stick = 3 g
Let the weight of chalk be x g.
Then, 12% of $x = 3$
 $\Rightarrow \frac{12}{100} \times x = 3$
 $\Rightarrow x = \frac{3 \times 100}{12} = 25$ g

Hence, the weight of chalk stick is 25 g.

Question 8:

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

The cost of a book = ₹275 Loss percent = 15% Loss = Loss% of C.P. = 15% of ₹275 $= \frac{15}{100} \times 275 = ₹41.25$ Therefore, S.P. = C.P. - Loss = ₹275 - ₹41.25 = ₹233.75

Hence, Amina sells a book for ₹233.75.



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Question 9:

Find the amount to be paid at the end of 3 years in each case: (a) Principal = ₹1,200 at 12% p.a. (b) Principal = ₹ 7,500 at 5% p.a. **Answer 9:** (a) Here, Principal (P) = ₹1,200, Rate (R) = 12% p.a., Time (T) = 3 years Simple Interest = $\frac{P \times R \times T}{100} = \frac{1200 \times 12 \times 3}{100}$ = ₹ 432 Now, Amount = Principal + Simple Interest = ₹1200 + ₹432 = ₹1,632 (b) Here, Principal (P) = \gtrless 7,500, Rate (R) = 5% p.a., Time (T) = 3 years Simple Interest = $\frac{P \times R \times T}{100} = \frac{7500 \times 5 \times 3}{100}$ = ₹1.125 Now, Amount = Principal + Simple Interest = ₹7,500 + ₹1,125 = ₹ 8,625

Question 10:

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

Answer 10:

Here, Principal (P) = ₹56,000, Simple Interest (S.I.) = ₹280, Time (T) = 2 years Simple Interest = $\frac{P \times R \times T}{100}$

$$\Rightarrow 280 = \frac{56000 \times R \times 2}{100}$$
$$\Rightarrow R = \frac{280 \times 100}{56000 \times 2}$$
$$\Rightarrow R = 0.25\%$$

Hence, the rate of interest on sum is 0.25%.



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Question 11:

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

Answer 11:

Simple Interest = ₹45, Rate (R) = 9% p.a., Time (T) = 1 years Simple Interest = $\frac{P \times R \times T}{100}$ $\Rightarrow 45 = \frac{P \times 9 \times 1}{100}$ $\Rightarrow P = \frac{45 \times 100}{9 \times 1}$ $\Rightarrow P = ₹500$ Hence, she borrowed ₹ 500.



