



SpeedLabs

MATHS

CBSE 8th

TEEVRA EDUTECH PVT. LTD.

Comparing Quantities

Exercise 8.1

Q.1 Find the ratio of the following.

(a) Speed of a cycle 15 km per hour to the speed of scooter 30 km per hour.

(b) 5 m to 10 km

(c) 50 paise to Rs 5

Sol:

(a) Speed of cycle = 15 km/hr

Speed of scooter = 30 km/hr

Hence, ratio of speed of cycle to speed of scooter = 15:30

$$= \frac{15}{30} = \frac{1}{2} = 1:2.$$

(b) 5 m to 10 km

∴ 1 km = 1000 m

∴ 10 km = 10 × 1000 m = 10000 m

Hence, ratio = 5 m: 10000m

$$= \frac{5}{10000} = \frac{1}{2000} = 1:2000.$$

(c) 50 paise to Rs 5

∴ Rs 1 = 100 paise

∴ Rs 5 = 5 × 100 = 500 paise

Hence, ratio = 50 : 500

$$= \frac{50}{500} = \frac{1}{10} = 1:10.$$

Q.2 Convert the following ratios to percentages.

(a) 3:4

(b) 2:3

Sol:

(a) 3: 4

Percentage of 3:4 = $\frac{3}{4} \times 100\% = 75\%$.

(b) 2: 3

Percentage of 2:3 = $\frac{2}{3} \times 100\% = 66\frac{2}{3}\%$.

Q.3 72% of 25 students are good in mathematics. How many are not good in mathematics?

Sol: Total number of students = 25

72% of 25 students are good in mathematics.

Number of good students in mathematics = 72% of 25

$$= \frac{72}{100} \times 25 = 18$$

Number of students not good at mathematics = $25 - 18 = 7$

Hence, percentage of students not good in mathematics

$$= \frac{7}{25} \times 100\% = 28\%.$$

Q.4 A football team won 10 matches out of the total number of matches they played. If their win percentage was 40, then how many matches did they play in all?

Sol: Let total number of matches be x.

According to the given condition,

40% of the total matches = 10

Therefore, 40% of $x = 10$

$$\text{Or, } \frac{40}{100} \times x = 10$$

$$x = \frac{10 \times 100}{40} = 25$$

Hence, total number of matches are 25.

Q.5 If Chameli had Rs 600 left after spending 75% of her money, how much did she have in the beginning?

Sol: Let her money in the beginning be Rs x .

According to the given condition,

$$\therefore x - 75\% x = 600$$

$$x - \frac{75}{100} \times x = 600 \Rightarrow x \left(1 - \frac{3}{4}\right) = 600$$

$$x \left(\frac{4 - 3}{4}\right) = 600 \Rightarrow x \left(\frac{1}{4}\right) = 600$$

$$x = 600 \times 4 \quad \Rightarrow x = 2400$$

Hence, the money in the beginning was Rs 2400.

Alternative method:

Percentage of money left = $(100 - 75)\% = 25\%$

25% of $x = 600$

$$\frac{25}{100} \times x = 600 \Rightarrow x = \frac{600 \times 100}{25}$$

$$x = 2400.$$

Hence, the money in the beginning was Rs 2400.

Q.6: If 60% people in a city like cricket, 30% like football and the remaining like other games, then what per cent of the people like other games? If the total number of people are 50 lakh, find the exact number who like each type of game.

Sol: Number of people who like cricket = 60%

Number of people who like football = 30%

Number of people who like other games = $100\% - (60\% + 30\%)$

$$= 100\% - 90\%$$

$$= 10\%$$

Number of people who like cricket = 60% of 50,00,000

$$= \frac{60}{100} \times 50,00,000$$

$$= 30,00,000$$

$$= 30 \text{ lakh}$$

Number of people who like football = 30% of 50,00,000

$$= \frac{30}{100} \times 50,00,000$$

$$= 15,00,000$$

$$= 15 \text{ lakh}$$

Number of people who like other games = 10% of 50,00,

$$= \frac{10}{100} \times 50,00,000 = 5,00,000 = 5 \text{ lakh.}$$