Q1. Calculate the ratio for the following:

(i) The scooter runs with a speed of 30 km/hour and the cycle runs with a speed of 60 km/ hour.

Solution:

Ratio of the speed of cycle to the speed of scooter = $\frac{30}{60}$ = 1:2

(ii) 10 meter to 10 kilometer

Answer: Since 1 km = 1000 m

Required ratio = $\frac{10\,m}{10\,km}$ = $\frac{10\,m}{10 \times 1000\,m}$ = 1:1000

(iii) 30 paisa to Rs 3

Since Rs 1 = 100 paisa

Required ratio = $\frac{30\,paisa}{Rs\,3}$ = $\frac{30\,paisa}{300\,paisa}$ = 1:10

Q2. Change the given ratios into percentages.

Solution:

(i) 4:5 = $\frac{4}{5}$ = $\frac{4}{5} \times \frac{100}{100}$

= $\frac{4}{5} \times 100\%$ = 80%

(ii) 2:3= $\frac{2}{3}$ = $\frac{2}{3} \times \frac{100}{100}$ = $\frac{2}{3} \times 100\%$ = $\frac{200}{3}\%$ = $\left(\frac{66 \times 3+2}{3}\right)\%$ = $66\frac{2}{3}\%$

Q3. 72% of 25 students are doing well in maths. Find out how many students aren't doing well in maths.

Solution:

Given , that 72% of 25 students are good in mathematics.

So, the percentage of students who are not doing well in mathematics=100%-72%=28%

∴Number of students who are not good in mathematics = $\frac{28}{100} \times 25$=7

∴7 students are not good in mathematics.

Q4. A football team won 10 matches out of the total number of matches they played. If their win percentage was 40, then calculate the number of matches they played in all.

Solution:

Let the total number of matches played by the team be x.

Given, that the team won 10 matches and the winning percentage was 40%.

Therefore,

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

X=25

∴The team played 25 matches.

Q5. If Charu had Rs 600 left after spending 75% of her money, how much did she have in the beginning?

Solution:

Let the amount of money which Charu had in the beginning be x.

Given, that after spending 75% of Rs x, she was left with Rs 600.

Therefore,

(100 – 75)% of x=Rs 600

So, 25% of x=Rs 600

$\frac{25}{100} \times x = Rs\,600$

X=Rs$\left(600 \times \frac{100}{25}\right)$=Rs 2400

∴She had Rs 2400 in the beginning.

Q6. If 30% like football 60% of people in a city like football, 60% like cricket and the rest like other games, then what percentage 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.

Solution:

Percentage of people who like other games=100% – 60% – 30%

=(100-90)%

Total number of people in the city = 50 lakh

∴Number of people who like cricket = $\left(\frac{60}{100} \times 50\right)$ lakh=30 lakh

Number of people who like football=$\left(\frac{30}{100} \times 50\right)$ lak =15 lakh

Number of people who like other games = $\left(\frac{10}{100} \times 50\right)$ lakh = 5 lakh