# Mathematics

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*(Chapter – 8) (Comparing Quantities)*

**(Class – VII)**

## *Exercise 8.1*

**Question 1:**

Find the ratio of:

(a) ₹5 to 50 paise

(b) 15 kg to 210 g

(c) 9 m to 27 cm

(d) 30 days to 36 hours

**Answer 1:**

To find ratios, both quantities should be in same unit.

(a) ₹5 to 50 paise

$\Rightarrow$ 5 x 100 paise to 50 paise [$\because$ ₹ 1 = 100 paise]

$\Rightarrow$ 500 paise to 50 paise

Thus, the ratio is = $\frac{500}{50} = \frac{10}{1}$ = 10 : 1

(b) 15 kg to 210 g

$\Rightarrow$ 15 x 1000 g to 210 g [$\because$ 1 kg = 1000 g]

$\Rightarrow$ 15000 g to 210 g

Thus, the ratio is = $\frac{15000}{210} = \frac{500}{7}$ = 500 : 7

(c) 9 m to 27 cm

$\Rightarrow$ 9 x 100 cm to 27 cm [$\because$ 1 m = 100 cm]

$\Rightarrow$ 900 cm to 27 cm

Thus, the ratio is = $\frac{900}{27} = \frac{100}{3}$ = 100 : 3

(d) 30 days to 36 hours

$\Rightarrow$ 30 x 24 hours to 36 hours [$\because$ 1 day = 24 hours]

$\Rightarrow$ 720 hours to 36 hours

Thus, the ratio is = $\frac{720}{36} = \frac{20}{1}$ = 20 : 1

## Question 2:

In a computer lab, there are 3 computers for every 6 students. How many computers will be needed for 24 students?

## Answer 2:

$\because$ 6 students need = 3 computers

$\therefore$ 1 student needs = $\frac{3}{6}$ computers

$\therefore$ 24 students need = $\frac{3}{6} \times 24$ = 12 computers

Thus, 12 computers will be needed for 24 students.

## Question 3:

Population of Rajasthan = 570 lakhs and population of U.P. = 1660 lakhs. Area of Rajasthan = 3 lakh km$^2$ and area of U.P. = 2 lakh km$^2$.

(i) How many people are there per km$^2$ in both states?

(ii) Which state is less populated?

## Answer 3:

(i) People present per km$^2$ = $\frac{\text{Population}}{\text{Area}}$

In Rajasthan = $\frac{570 \text{ lakhs}}{3 \text{ lakhs per km}^2}$ = 190 people km$^2$

In U.P. = $\frac{1660 \text{ lakhs}}{2 \text{ lakh per km}^2}$ = 830 people per km$^2$

(ii) Rajasthan is less populated.