Class –VII Mathematics (Ex. 8.1)

Questions

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

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

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?

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

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.

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.