

Board – CBSE

Class – 7th

Topic – Comparing Quantities 8.1

**Q.1** Find the ratio of:

(a) Rs 5 to 50 paise

(b) 15 kg to 210 g

(c) 9 m to 27 cm

(d) 30 days to 36 hours

**Sol:** (a) Rs 5 to 50 paise

1 rupee = 100 paise

5 rupees = 500 paise

$$\therefore \frac{RS\ 5}{50\ Paise} = \frac{500}{50} = \frac{10}{1}$$

Hence, the required ratio is 10:1.

(b) 15 kg to 210 g

1 kg = 1000 g

15 kg = 15000 g

$$\Rightarrow \frac{15\ Kg}{210\ g} = \frac{15000}{210} = \frac{500}{7}$$

Hence, the required ratio is 500:7.

(c) 9 m to 27 cm

1 m = 100 cm

9 m = 900 cm

$$\Rightarrow \frac{9\ cm}{27\ cm} = \frac{900}{27} = \frac{100}{3}$$

Hence, the required ratio is 100:3.

(d) 30 days to 36 hours

1 days = 24 hrs

30 days = 24 × 30 = 720 hrs

$$\Rightarrow \frac{30\ days}{36\ hrs} = \frac{720}{36} = \frac{20}{1}$$

Hence, the required ratio is 20:1.

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

**Sol:** For 6 students, number of computers required = 3

$$\therefore \text{For 1 student, number of computers required} = \frac{3}{6} = \frac{1}{2}$$

$$\therefore \text{For 24 students, number of computers required} = 24 \times \frac{1}{2} = 12$$

Hence, 12 computers are required for 24 students.

**Q.3** Population of Rajasthan = 570 lakhs and population of UP = 1660 lakhs.

Area of Rajasthan = 3 lakh  $\text{km}^2$  and area of UP = 2 lakh  $\text{km}^2$ .

(i) How many people are there per  $\text{km}^2$  in both these States?

(ii) Which State is less populated?

**Sol:** (i) Population of Rajasthan in 3  $\text{km}^2$  area = 570 lakh

$$\text{Population of Rajasthan in 1 } \text{km}^2 \text{ area} = \frac{570}{3} = 190 \text{ lakh}$$

Population of U.P in 2  $\text{km}^2$  area = 1660 lakh

$$\text{Population of U.P in 1 } \text{km}^2 \text{ area} = \frac{1660}{2} = 830 \text{ lakh}$$

(ii) It can be observed that population per  $\text{km}^2$  area is lesser for Rajasthan. Therefore, Rajasthan is less populated.