

Comparing Quantities: Exercise 8.1

Q.1 Find the ratio of:

(a) 5 to 50 paise

(c) 9 m to 27 cm

(b) 15 kg to 210 g

(d) 30 days to 36 hours

Sol: Ratio of:

(a) Given: 5 to 50 paise

Since, ₹ 1 = 100 paise

₹ 5 = 500 paise

Now ratio,

$$500/50 = 10/1$$

Thus required ratio = 10:1

(b) Given: 15 kg to 210 g

Since, 1 kg = 1000g

$$15 \text{ kg} = 15 \times 1000 = 15000\text{g}$$

Now ratio,

$$15000/210 = 1500/21 = 500/7$$

Thus required ratio = 500 : 7

(c) Given: 9 m to 27 cm

Since, 1 m = 100 cm

$$9 \text{ m} = 9 \times 100 = 900 \text{ cm}$$

Now ratio,

$$900/27 = 100/3$$

Thus required ratio = 100 : 3

(d) Given: 30 days to 36 hours

Since, 1 day = 24 hours

$$30 \text{ days} = 24 \times 30 = 720 \text{ hours}$$

Now ratio,

$$720/36 = 20/1$$

Thus required ratio = 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: Given: For every 6 students, number of computer required = 3 computers

For 6 student, number of computer required = $(3/6) = 1/2$

And for 24 students number of computer required = $24 \times 1/2 = 12$

Thus, for 24 students, 12 computer are required.

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

Area of Rajasthan = 3 lakh km² and area of UP = 2 lakh km².

(i) How many people are there per km² in both these States?

(ii) Which State is less populated?

Sol: Given: Population of Rajasthan = 570 lakhs and population of UP = 1660 lakhs.

Area of Rajasthan = 3 lakh km² and area of UP = 2 lakh km².

$$\begin{aligned} \text{(i) Population of Rajasthan in per km}^2 &= 570 \text{ lakh} / 3 \text{ lakh km}^2 \\ &= 190 \text{ people per km}^2 \end{aligned}$$

$$\begin{aligned} \text{Now, Population of UP in per km}^2 &= 1660 \text{ lakh} / 2 \text{ lakh km}^2 \\ &= 830 \text{ people per km}^2 \end{aligned}$$

(ii) From above calculation, Rajasthan is the state is less populated state.