

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

⇒ 5 x 100 paise to 50 paise

[∵ ₹ 1 = 100 paise]

⇒ 500 paise to 50 paise

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

(b) 15 kg to 210 g

⇒ 15 x 1000 g to 210 g

[∵ 1 kg = 1000 g]

⇒ 15000 g to 210 g

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

(c) 9 m to 27 cm

⇒ 9 x 100 cm to 27 cm

[∵ 1 m = 100 cm]

⇒ 900 cm to 27 cm

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

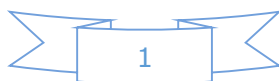
(d) 30 days to 36 hours

⇒ 30 x 24 hours to 36 hours

[∵ 1 day = 24 hours]

⇒ 720 hours to 36 hours

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



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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:

$$\therefore 6 \text{ students need} = 3 \text{ computers}$$

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

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

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 km² and area of U.P. = 2 lakh km².

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

(ii) Which state is less populated?

Answer 3:

(i) People present per km² = $\frac{\text{Population}}{\text{Area}}$

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

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

(ii) Rajasthan is less populated.

