

Chapter-11 Ratio

Exercise 11(A)

* Express each of the following ratios in its simplest form:

a) i) $4:6$ ii) $48:54$ iii) $200:250$
 $2:3$ $8:9$ $4:5$

b) i) $5 \text{ kg} : 800 \text{ gm}$ ii) $30 \text{ cm} : 2 \text{ m}$
 $25 : 8$ $3 : 20$

iii) $3 \text{ m} : 90 \text{ cm}$ iv) $2 \text{ years} : 9 \text{ months}$
 $10 : 3$ ~~16~~ $8 : 3$

v) $1 \text{ hour} : 45 \text{ min}$ vi) $4 \text{ min} : 45 \text{ sec}$
 $4 : 3$ ~~16~~ $16 : 3$

q) i) $1\frac{1}{2} : 2\frac{1}{2}$

$$\frac{3}{2} : \frac{5}{2}$$

$$\frac{3}{2}$$

$$\frac{3}{2} \times \frac{2}{5} = \frac{3}{5} \quad 3 : 5$$

$$\frac{5}{2}$$

ii) $3\frac{1}{2} : 7$

$$\frac{7}{2} : \frac{7}{1}$$

$$\frac{7}{2} \times \frac{2}{14} = \frac{7}{14} \quad \frac{7}{14} \quad \frac{7}{14} \quad \frac{1}{2} = 1 : 2$$

$$\frac{7}{2} : \frac{14}{2}$$

vii) $2\frac{1}{3} : 3\frac{1}{2} : 1\frac{1}{4}$

$$\frac{7}{3} : \frac{7}{2} : \frac{5}{4}$$

$$\frac{28}{12} \quad \frac{42}{12} \quad \frac{15}{12}$$

$$\frac{\frac{28}{12}}{\frac{12}{12}} \quad \frac{\frac{42}{12}}{\frac{12}{12}} \quad \frac{\frac{15}{12}}{\frac{12}{12}} \quad 28 : 42 : 15$$

viii) $x^2 : 4x$

$$\frac{x^2}{4x} = \frac{2x}{4} \quad x : 4$$

v) ~~2.5~~ $2.5 : 1.5$

$$\frac{25}{10} : \frac{15}{10} \quad \frac{25}{15} = \frac{5}{3} = 5 : 3$$

vi) $2.5 : 5$

$$\frac{25}{10} : \frac{5}{1} \quad \frac{25}{10} : \frac{50}{10} \quad \frac{25}{50} = \frac{1}{2} = 1 : 2$$

2. A field is 80 m long and 60 m wide. Find the ratio of its width to its length.

Ans) ~~Ratio~~ Ratio of width and length = ~~60~~ $3 : 4$

3. State, true or false:

- i) A ratio equivalent to 7:9 is 27:21. ~~True~~ False
 ii) A ratio equivalent to 5:4 is 240:192. True
 iii) A ratio of 250 gm and 3 kg is 1:12. True

4. Is the ratio of 15 kg and 35 kg same as the ratio of 6 years and 14 years? Yes

5. Is the ratio of 6g and 15g same as the ratio of 36 ~~cm~~^{cm} and 90 ~~cm~~^{cm}. Yes

6. Find the ratio between 3.5m, 475 cm and 2.8 m.

$$\text{Ans) } \frac{35}{10} : \frac{475}{100} : \frac{28}{10} = \frac{350}{100} : \frac{475}{100} : \frac{280}{100} = 70 : 95 : 56$$

7. Find the ratio between 5 dozen and 2 scores. [1 score = 20]

$$\text{Ans) } \begin{array}{l} 5 \times 12 = 60 \\ 2 \times 20 = 40 \end{array} \quad \frac{60}{40} = \frac{3}{2} = 3:2$$