

HW  
11/09/2021

Sunay Math class-6  
Sec-B

Ex= 11(A)

HW- 1-11-2021



1. Express each of the following ratios in the simplest form.

$$(a) (i) 4:6 = \frac{4=2 \times \cancel{2}}{6=2 \times \cancel{3}} = 2:3$$

$$(ii) 48:54 \\ = \frac{48=2 \times \cancel{24}}{2 \times \cancel{27}} \\ = \frac{24=3 \times \cancel{8}}{3 \times \cancel{9}} = 8:9$$

$$(iii) 200:250 \\ = \frac{200=50 \times \cancel{4}}{250=50 \times \cancel{5}} = 4:5$$

$$(b) (i) 5kg:800g \\ = \frac{5000}{800} = \frac{2 \times \cancel{2500}}{2 \times \cancel{400}} \\ = \frac{25}{4} = 25:4$$

$$(ii) 30cm:2m \\ = \frac{30cm}{200cm} = \frac{5 \times \cancel{6}}{5 \times \cancel{40}} = \frac{6}{40} \\ \frac{6}{40} = \frac{2 \times \cancel{3}}{2 \times \cancel{20}} = 3:20$$

$$(i \& ii) 3m:90cm \\ = \frac{300}{90} = \frac{3 \times \cancel{100}}{3 \times \cancel{30}} = \frac{100}{30} \\ = \frac{100}{30} = \frac{10 \times \cancel{10}}{10 \times \cancel{3}} = 10:3$$

(iv) 2

(v) 1

(vi)

(iv) 2 years: 9 months  
24: 9 months

$$= \frac{24}{9} = \frac{3 \times 8}{3 \times 3}$$

$$= \frac{8}{3} = 8:3$$

(v) 1 hour: 45 mins

$$= \frac{60}{45} = \frac{3 \times 20}{3 \times 15}$$

$$= \frac{20}{15} = \frac{5 \times 4}{5 \times 3} = 4:3$$

(vi) 4 min: 45 sec

$$= \frac{240}{45} = \frac{3 \times 80}{3 \times 15} = \frac{2 \times 120}{3 \times 15}$$

$$= \frac{80}{15} =$$

$$\frac{240}{45} = \frac{5 \times 48}{5 \times 9}$$

$$= \frac{48}{9} = \frac{3 \times 16}{3 \times 3}$$

$$= \frac{16}{3} = 16:3$$

c. (i)  $\frac{3}{2} : \frac{5}{2} = \frac{3}{2} \div \frac{5}{2}$

$$= \frac{3}{2} \times \frac{2}{5} = \frac{6}{10} = \frac{3}{5} = 3:5$$

(ii)  $\frac{7}{2} : 7 = \frac{7}{2} \times \frac{1}{7} = \frac{1}{2} = 1:2$

(iii)  $\frac{7}{3} : \frac{7}{2} : \frac{5}{4}$

$$\text{Lcm} = \frac{2 \mid 3, 2, 4}{3, 1, 2}$$

$$= 12$$

$$\frac{7}{3} \times 4 : \frac{7}{2} \times 6 : \frac{5}{4} \times 3$$

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

$$= 28:42:15$$

(iv)  $x^2 : 4x$

$$= \frac{x \times x}{4 \times x}$$

$$= \frac{x}{4} = x:4$$

$$2.5 : 1.5$$

$$= \frac{25}{15} = \frac{5 \times 5}{5 \times 3}$$

$$= 5 : 3$$

$$2.5 : 5$$

$$= \frac{25}{5} = \frac{5 \times 5}{5 \times 1}$$

$$= 5 : 1$$

$$\frac{25}{10} : 5$$

$$= \frac{25}{10} \times \frac{1}{5}$$

$$= \frac{25}{50} = \frac{5 \times 5}{5 \times 10}$$

$$\frac{5}{10} = \frac{5 \times 1}{5 \times 2} = 1 : 2$$

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

$$\text{length} = 80\text{m}$$

$$\text{width} = 60\text{m}$$

Ratio of width to length

$$= 60 : 80 = \frac{60}{80} = \frac{2 \times 30}{2 \times 40}$$

$$\begin{array}{r} 25 \\ \times 12 \\ \hline 50 \\ 250 \\ \hline 3000 \end{array}$$

$$\begin{aligned} \frac{30}{40} &= \frac{5 \times 6}{5 \times 8} \\ &= \frac{6}{8} = \frac{2 \times 3}{2 \times 4} \\ &= \frac{3}{4} = 3:4 \end{aligned}$$

3. State, true or false

(i) A ratio equivalent to 7:9 is 27:21.  
false

(ii) A ratio equivalent to 5:4 is 240:192.

$$\frac{5}{4} = \frac{240}{192}$$

$$= 5 \times 192 = 960$$

$$= 4 \times 240 = 960$$

So, true.

(iii) A ratio of 250 gm and 3 kg is 1:12.

$$= \frac{250}{3000} = \frac{1}{12}$$

$$= 250 \times 12 = 3000$$

$$= 3000 \times 1 = 3000$$

So, true.

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

$$= \frac{15}{35} = \frac{5 \times 3}{5 \times 7} = 3:7$$

$$\frac{6}{14} = \frac{2 \times 3}{2 \times 7} = 3:7$$

ratio of 15 kg and 35 kg = 3:7

ratio of 6 years to 14 years = 3:7

So, true.

5. Is the ratio of 6g and 15g same as the ratio of 36cm and 90cm. True

$$\frac{6}{15} = \frac{3 \times 2}{3 \times 5} = 2:5$$

$$\frac{36}{90} = \frac{3 \times 12}{3 \times 30}$$

$$= \frac{12}{30} = \frac{3 \times 4}{3 \times 10}$$

$$= \frac{4}{10} = \frac{2 \times 2}{2 \times 5}$$

$$= 2:5$$

6. Find the ratio between 3.5m, 4.75cm and 2.8m.

$$= 3.5 : 4.75 : 2.8$$

$$= 3.5 \times 2 : 4.75 \times 2 : 2.8 \times 2$$

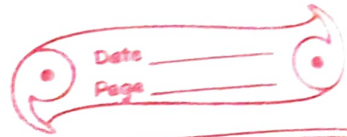
$$= 70 : 95 : 56$$

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

2x5

$$\frac{5}{2} \times \frac{3}{2} = \frac{15}{4}$$

$$15 + 4 = \dots$$



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

$$= 60 : 40$$

$$= \frac{60}{40} = \frac{2 \times 30}{2 \times 20} = \frac{30}{20}$$

$$\frac{30}{20} = \frac{2 \times 15}{2 \times 10}$$

$$= \frac{15}{10} = \frac{5 \times 3}{5 \times 2} = \frac{3}{2} = 3 : 2$$

HW = 17109/21

Ex-11(B)