

## Ratio and Proportion Ex 9.2 Q1

## Answer:

(i) Writing the ratios as fractions, we have

3: 
$$4 = \frac{3}{4}$$
 and 9:  $16 = \frac{9}{16}$ 

Now, LCM of 4 and 16 = 16

Making the denominator of each fraction = 16, we have

$$\frac{3}{4} = \frac{3 \times 4}{4 \times 4} = \frac{12}{16} \text{ and the other fraction} = \frac{9}{16}$$
Of  $\frac{12}{16}$  and  $\frac{9}{16}$ , clearly  $\frac{12}{16} > \frac{9}{16}$ .

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Therefore,  $\frac{3}{4} > \frac{9}{16}$ 

(ii) Writing the ratios as fractions, we have 
$$15:16=\frac{15}{16}$$
 and  $24:25=\frac{24}{25}$ 

Now, LCM of 16 and 25 = 400

Making the denominator of each fraction = 400, we have

$$\frac{15}{16} = \frac{15 \times 25}{16 \times 25} = \frac{375}{400}$$
 and the other fraction =  $\frac{24 \times 16}{25 \times 16} = \frac{384}{400}$ 

Clearly, 384 > 375. So, 
$$\frac{384}{400} > \frac{375}{400}$$

Therefore,  $\frac{24}{25} > \frac{15}{16}$ 

(iii) Writing the ratios as fractions, we have

4:7 = 
$$\frac{4}{7}$$
 and 5:8 =  $\frac{5}{8}$ 

Now, LCM of 7 and 8 = 56.

Making the denominator of each fraction = 56, we have

$$\frac{4\times8}{7\times8} = \frac{32}{56}$$
 and the other fraction =  $\frac{5\times7}{8\times7} = \frac{35}{56}$ 

Clearly, 
$$36 > 32$$
. So,  $\frac{35}{56} > \frac{32}{56}$ 

Therefore,  $\frac{5}{8} > \frac{4}{7}$ .

(iv) Writing the ratios as fractions, we have

9:20 = 
$$\frac{9}{20}$$
 and 8:13 =  $\frac{8}{13}$ 

Now, LCM of 20 and 13 = 260.

Making the denominator of each fraction = 260, we have

$$\frac{9 \times 13}{20 \times 13} = \frac{117}{260}$$
 and the other fraction =  $\frac{8 \times 20}{13 \times 20} = \frac{160}{260}$ 

Clearly, 160 > 117. So, 
$$\frac{160}{260} > \frac{117}{260}$$

Therefore,  $\frac{8}{13} > \frac{9}{20}$ 

(v) Writing the ratios as fractions, we have

1:2 = 
$$\frac{1}{2}$$
 and 13:27 =  $\frac{13}{27}$ 

Now, LCM of 2 and 27 = 54.

Making the denominator of each fraction = 54, we have

$$\frac{1\times 27}{2\times 27} = \frac{27}{54}$$
 and the other fraction =  $\frac{13\times 2}{27\times 2} = \frac{26}{54}$ 

Clearly, 27 > 26. So, 
$$\frac{27}{54} > \frac{26}{54}$$

Therefore,  $\frac{1}{2} > \frac{13}{27}$ .

Ratio and Proportion Ex 9.2 Q2

## Answer:

We have

$$\frac{6}{8} = \frac{6 \div 2}{8 \div 2} = \frac{3}{4}$$

Therefore, 3:4 is an equivalent ratio of 6:8.

$$\frac{6}{8} = \frac{6 \times 2}{8 \times 2} = \frac{12}{16}$$

Hence, 3:4 and 12:16 are equivalent ratios of 6:8.

Ratio and Proportion Ex 9.2 Q3

## Answer:

$$\frac{12}{20} = \frac{0}{5} = \frac{9}{0}$$
Let  $\frac{12}{20} = \frac{(x)}{5} = \frac{9}{(y)}$ .

Then,  $\frac{12}{20} = \frac{(x)}{5} \Rightarrow 12 \times 5 = 20x \Rightarrow x = \frac{12 \times 5}{20} = 3$ .

Also,  $\frac{12}{20} = \frac{9}{(y)} \Rightarrow 12y = 20 \times 9 \Rightarrow y = \frac{20 \times 9}{12} = 15$ .

Therefore,  $\frac{12}{20} = \frac{(3)}{5} = \frac{9}{(15)}$ .

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