

Exercise 8A

#### Answer:

(i) HCF of 24 and 40 is 8.

$$\therefore 24:40 = \frac{24}{40} = \frac{24 \div 8}{40 \div 8} = \frac{3}{5} = 3:5$$

Hence, 24: 40 in its simplest form is 3:5.

(ii) HCF of 13.5 and 15 is 1.5.

$$\frac{13.5}{15} = \frac{135}{150}$$

The HCF of 135 and 150 is 15.

$$= \frac{135 \div 15}{150 \div 15} = \frac{9}{10}$$

Hence, 13.5: 15 in its simplest form is 9: 10.

(iii) 
$$\frac{20}{3}$$
 :  $\frac{15}{2} = 40$  : 45

The HCF of 40 and 45 is 5.

$$40:45 = \frac{40}{45} = \frac{40 \div 5}{45 \div 5} = \frac{8}{9} = 8:9$$

Hence,  $6\frac{2}{3}$ :  $7\frac{1}{2}$  in its simplest form is 8:9

(iv) 9:6

The HCF of 9 and 6 is 3.

$$\therefore 9:6 = \frac{9}{6} = \frac{9 \div 3}{6 \div 3} = 3:2$$

Hence,  $\frac{1}{6}$ :  $\frac{1}{9}$  in its simplest form is 3 : 2.

(v) LCM of the denominators is 2.

$$4:5:\frac{9}{2}=8:10:9$$

The HCF of these 3 numbers is 1.

: 8:10:9 is the simplest form.

The HCF of 25, 65 and 80 is 5.

$$\therefore 25:65:80 = \frac{25}{\frac{65}{80}} = \frac{25 \div 5}{\frac{65 \div 5}{80 \div 5}} = \frac{5}{\frac{13}{16}} = 5:13:16$$

#### Q2

#### Answer:

(i) Converting both the quantities into the same unit, we have:

75 paise: (3 × 100) paise = 75: 300

$$=\frac{75}{300}=\frac{75\div75}{300\div75}=\frac{1}{4}$$
 (: HCF of 75 and 300 = 75)

(ii) Converting both the quantities into the same unit, we have: 105 cm : 63 cm =  $\frac{105}{63} = \frac{105 \div 21}{63 \div 21} = \frac{5}{3}$  (: HCF of 105 and 63 = 21)

= 5 cm : 3 cm

(iii) Converting both the quantities into the same unit

65 min : 45 min =  $\frac{65}{45} = \frac{65 \div 5}{45 \div 5} = \frac{13}{9}$  (: HCF of 65 and 45 = 5)

= 13 min: 9 min

(iv) Converting both the quantities into the same unit, we get:

8 months: 12 months =  $\frac{8}{12} = \frac{8 \div 4}{12 \div 4} = \frac{2}{3}$  (: HCF of 8 and 12 = 4)

= 2 months: 3 months

(v) Converting both the quantities into the same unit, we get:

2250g : 3000 g = 
$$\frac{2250}{3000} = \frac{2250 \div 750}{3000 \div 750} = \frac{3}{4}$$
 (: HCF of 2250 and 3000 = 750)

(vi) Converting both the quantities into the same unit, we get: 1000 m : 750 m = 
$$\frac{1000}{750} = \frac{1000 \div 250}{750 \div 250} = \frac{4}{3}$$
 ( $\because$  HCF of 1000 and 750 = 250) = 4 m : 3 m

Q3

Answer:

$$\frac{A}{B} = \frac{7}{5}$$
 and  $\frac{B}{C} = \frac{9}{14}$ 

Therefore, we have:

$$\begin{array}{ll} \frac{A}{B} \times \frac{B}{C} &=& \frac{7}{5} \times \frac{9}{14} \\ \\ \frac{A}{C} &=& \frac{9}{10} \end{array}$$

Q4

Answer:

$$\frac{A}{B} = \frac{5}{8}$$
 and  $\frac{B}{C} = \frac{16}{25}$ 

$$\frac{A}{B} = \frac{5}{8}$$
 and  $\frac{B}{C} = \frac{16}{25}$   
Now, we have:  $\frac{A}{B} \times \frac{B}{C} = \frac{5}{8} \times \frac{16}{25} \Rightarrow \frac{A}{C} = \frac{2}{5}$ 

Q5

## Answer:

$$A: B = 3:5$$

B: 
$$C = 10: 13 = \frac{10 \div 2}{13 \div 2} = 5: \frac{13}{2}$$

Now, 
$$A:B:C=3:5:\frac{13}{2}$$

Q6

### Answer:

We have the following:

$$A:B=5:6$$

B: C = 4: 7 = 
$$\frac{4}{7}$$
 =  $\frac{4 \times \frac{6}{4}}{7 \times \frac{6}{4}}$  = 6:  $\frac{21}{2}$ 

$$A:B:C=5:6:\frac{21}{2}=10:12:21$$

Q7

# Answer:

Sum of the ratio terms = 7 + 8 = 15

Now, we have the following:

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