Ratio Proportion and Unitary Method Ex 9.3 Q5

Answer :

(i) 45 : 30 = 24 : 16 (3 : 2 is its simplest form)

Other three proportions are:

45 : 24 = 30 : 16 (15 : 8 is its simplest form)

30 : 45 = 16 : 24 (2 : 3 is its simplest form)

16 : 30 = 24 : 45 (8 : 15 is its simplest form)

(ii) 12 : 18 = 14 : 21 (2 : 3 is its simplest form)

Other three proportions are:

12 : 14 = 18 : 21 (6 : 7 is its simplest form)

21 : 18 = 14 : 12 (7 : 6 is its simplest form)

18 : 12 = 21 : 14 (3 : 2 is its simplest form)

Ratio Proportion and Unitary Method Ex 9.3 Q7

Answer :

It is given that 4, x, 9 are in continued proportion; therefore, we have:

4 : x : : x : 9

$$\Rightarrow \frac{4}{x} = \frac{x}{9} = 4 \times 9 = x^2$$
$$\Rightarrow x^2 = 36 \Rightarrow x = 6$$

Ratio Proportion and Unitary Method Ex 9.3 Q8

Answer :

In a proportion, the first, second and fourth terms are 32, 112 and 217, respectively.

Let the third term is be x.

Then, we have:

32 : 112 : : x : 217

$$\Rightarrow \frac{32}{112} = \frac{x}{217} \Rightarrow \frac{32}{112} \times 217 = x$$
$$\Rightarrow x = 62$$

Ratio Proportion and Unitary Method Ex 9.3 Q9

Answer :

(i) 36, 90, 225

Consider $\frac{36}{90} = \frac{2}{5}$ (Dividing numerator and denominator by 18)

$\frac{90}{225} = \frac{2}{5}$ $\left(\text{Dividing numerator and denominator by } 45\right)$

$\Rightarrow$ 36 : 90 : : 90 : 225

(ii) 48, 60, 75

Consider $\frac{48}{60} = \frac{4}{5}$ (Dividing numerator and denominator by 12)

$\frac{60}{75} = \frac{4}{5}$ $\left(\text{Dividing numerator and denominator by } 15\right)$

$\Rightarrow$ 48 : 60 : : 60 : 75

(iii) 16, 84, 441

Consider $\frac{16}{84} = \frac{4}{21}$ (Dividing numerator and denominator by 4)

$\frac{84}{441} = \frac{4}{21}$ $\left(\text{Dividing numerator and denominator by } 21\right)$

$\Rightarrow$16 : 84 : : 84 : 441

********** END **********