



Real Numbers Ex 1.4 Q1

Answer :

TO FIND: LCM and HCF of following pairs of integers

TO VERIFY: $L.C.M \times H.C.F = \text{product of the numbers}$

(i) 26 and 91

Let us first find the factors of 26 and 91

$$26 = 2 \times 13$$

$$91 = 7 \times 13$$

$$L.C.M \text{ of } 26, \text{ and } 91 = 2 \times 7 \times 13$$

$$L.C.M \text{ of } 26, \text{ and } 91 = \boxed{182}$$

$$H.C.F \text{ of } 26, \text{ and } 91 = \boxed{13}$$

We know that,

$$L.C.M \times H.C.F = \text{First number} \times \text{Second number}$$

$$\Rightarrow 182 \times 13 = 26 \times 91$$

$$\Rightarrow 2366 = 2366$$

Hence verified

(ii) 510 and 92

Let us first find the factors of 510 and 92

$$510 = 2 \times 3 \times 5 \times 17$$

$$92 = 2^2 \times 23$$

$$L.C.M \text{ of } 510 \text{ and } 92 = 2^2 \times 3 \times 5 \times 23 \times 17$$

$$L.C.M \text{ of } 510 \text{ and } 92 = \boxed{23460}$$

$$H.C.F \text{ of } 510 \text{ and } 92 = \boxed{2}$$

We know that,

$$\text{L.C.M} \times \text{H.C.F} = \text{First Number} \times \text{Second Number}$$

$$23460 \times 2 = 510 \times 92$$

$$46920 = 46920$$

Hence verified

(iii) 336 and 54

Let us first find the factors of 336 and 54

$$336 = 2^4 \times 3 \times 7$$

$$54 = 2 \times 3^3$$

$$\text{L.C.M of } 336 \text{ and } 54 = 2^4 \times 3^3 \times 7$$

$$\text{L.C.M of } 336 \text{ and } 54 = \boxed{3024}$$

$$\text{H.C.F of } 336 \text{ and } 54 = \boxed{6}$$

We know that,

$$\text{L.C.M} \times \text{H.C.F} = \text{First Number} \times \text{Second Nuber}$$

$$3024 \times 6 = 336 \times 54$$

$$18144 = 18144$$

Hence verified

Real Numbers Ex 1.4 Q2

Answer :

TO FIND: LCM and HCF of following pairs of integers

(i) 15, 12 and 21

Let us first find the factors of 15, 12 and 21

$$12 = 2^2 \times 3$$

$$15 = 3 \times 5$$

$$21 = 3 \times 7$$

$$\text{L.C.M of } 12, 15 \text{ and } 21 = 2^2 \times 3 \times 5 \times 7$$

$$\text{L.C.M of } 12, 15 \text{ and } 21 = \boxed{420}$$

$$\text{H.C.F of } 12, 15 \text{ and } 21 = \boxed{3}$$

(ii) 17, 23 and 29

Let us first find the factors of 17, 23 and 29

$$17 = 1 \times 17$$

$$23 = 1 \times 23$$

$$29 = 1 \times 29$$

$$\text{L.C.M of } 17, 23 \text{ and } 29 = 1 \times 17 \times 23 \times 29$$

$$\text{L.C.M of } 17, 23 \text{ and } 29 = \boxed{11339}$$

$$\text{H.C.F of } 17, 23 \text{ and } 29 = \boxed{1}$$

(iii) 8, 9 and 25

Let us first find the factors of 8,9 and 25

$$8 = 2^3$$

$$9 = 3^2$$

$$25 = 5^2$$

$$\text{L.C.M of 8,9 and 25} = 2^3 \times 3^2 \times 5^2$$

$$\text{L.C.M of 8,9 and 25} = \boxed{1800}$$

$$\text{H.C.F of 8,9 and 25} = \boxed{1}$$

(iv) 40, 36 and 126

Let us first find the factors of 40, 36 and 126

$$40 = 2^3 \times 5$$

$$36 = 2^2 \times 3^2$$

$$126 = 2 \times 3^2 \times 7$$

$$\text{L.C.M of 40, 36 and 126} = 2^3 \times 3^2 \times 5 \times 7$$

$$\text{L.C.M of 40, 36 and 126} = \boxed{2520}$$

$$\text{H.C.F of 40, 36 and 126} = \boxed{2}$$

(v) 84, 90 and 120

Let us first find the factors of 84, 90 and 120

$$84 = 2^2 \times 3 \times 7$$

$$90 = 2 \times 3^2 \times 5$$

$$120 = 2^3 \times 3 \times 5$$

$$\text{L.C.M of 84,90 and 120} = 2^3 \times 3^2 \times 5 \times 7$$

$$\text{L.C.M of 84,90 and 120} = \boxed{2520}$$

$$\text{H.C.F of 84,90 and 120} = \boxed{6}$$

(vi) 24, 15 and 36

Let us first find the factors of 24, 15 and 36.

$$24 = 2^3 \times 3$$

$$15 = 3 \times 5$$

$$36 = 2^2 \times 3^2$$

$$\text{L.C.M of 24,15 and 36} = 2^3 \times 3^2 \times 5$$

$$\text{L.C.M of 24,15 and 36} = \boxed{360}$$

$$\text{H.C.F of 24,15 and 36} = \boxed{3}$$

***** END *****