

NCERT Solutions For Class 10 Maths Real Numbers Exercise 1.2

Q1. Express each number as product of its prime factors:

(i) 140 (ii) 156 (iii) 3825 (iv) 5005 (v) 7429

## Answer:

(i) 
$$140 = 2 \times 2 \times 5 \times 7 = 2^2 \times 5 \times 7$$

(ii) 
$$156 = 2 \times 2 \times 3 \times 13 = 2^2 \times 3 \times 13$$

(iii) 
$$3825 = 3 \times 3 \times 5 \times 5 \times 17 = 3^2 \times 5^2 \times 17$$

(iv) 
$$5005 = 5 \times 7 \times 11 \times 13$$

(v) 
$$7429 = 17 \times 19 \times 23$$

Q2. Find the LCM and HCF of the following pairs of integers and verify that LCM × HCF = product of the two numbers.

- (i) 26 and 91 (ii) 510 and 92 (iii) 336 and 54 **Answer**:
- (i) 26 and 91  $26 = 2 \times 13$   $91 = 7 \times 13$  HCF = 13  $LCM = 2 \times 7 \times 13 = 182$ Product of the two numbers =  $26 \times 91 = 2366$  $HCF \times LCM = 13 \times 182 = 2366$

Hence, product of two numbers = HCF × LCM

(ii) 
$$510 \text{ and } 92$$
  
 $510 = 2 \times 3 \times 5 \times 17$   
 $92 = 2 \times 2 \times 23$   
 $HCF = 2$   
 $LCM = 2 \times 2 \times 3 \times 5 \times 17 \times 23 = 23460$   
Product of the two numbers =  $510 \times 92 = 46920$ 

LCM = 
$$2 \times 2 \times 3 \times 5 \times 17 \times 23 = 23460$$
  
Product of the two numbers =  $510 \times 92 = 46920$   
HCF × LCM =  $2 \times 23460$   
=  $46920$ 

Hence, product of two numbers = HCF × LCM

(iii) 336 and 54  

$$336 = 2 \times 2 \times 2 \times 2 \times 3 \times 7$$
  
 $336 = 2^4 \times 3 \times 7$   
 $54 = 2 \times 3 \times 3 \times 3$   
 $54 = 2 \times 3^3$   
 $HCF = 2 \times 3 = 6$   
 $LCM = 2^4 \times 3^3 \times 7 = 3024$   
Product of the two numbers =  $336 \times 54 = 18144$   
 $HCF \times LCM = 6 \times 3024 = 18144$ 

Hence, product of two numbers = HCF × LCM

## Q3 :Find the LCM and HCF of the following integers by applying the prime factorisation method.

(i) 12, 15 and 21 (ii) 17, 23 and 29 (iii) 8, 9 and 25

## Answer:

- (i) 12,15 and 21  $12 = 2^2 \times 3$   $15 = 3 \times 5$   $21 = 3 \times 7$ HCF = 3 LCM =  $2^2 \times 3 \times 5 \times 7 = 420$
- (ii) 17,23 and 29  $17 = 1 \times 17$   $23 = 1 \times 23$   $29 = 1 \times 29$ HCF = 1 LCM =  $17 \times 23 \times 29 = 11339$
- (iii) 8,9 and 25  $8 = 2 \times 2 \times 2$   $9 = 3 \times 3$   $25 = 5 \times 5$ HCF = 1 LCM =  $2 \times 2 \times 2 \times 3 \times 3 \times 5 \times 5 = 1800$

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