Ex - 8

1) Find the HCF of :

i) 108, 288, 420 =

2 | 108, 288, 420
2 | 54, 144, 210
3 | 27, 72, 105
9, 24, 35

HCF = 2 × 2 × 3
= 12

ii) 36, 54, 138

2 | 36, 54, 138
3 | 18, 27, 69
6, 9, 23

HCF = 2 × 3 = 6

2) Find the LCM of :

i) 72, 80, 252 =

2 | 72, 80, 252
2 | 36, 40, 126
2 | 18, 20, 63
9, 10, 31

LCM = 2 × 2 × 2 × 9 × 10 × 31
= 22320

3) Write true or false.

i) HCF of two prime number is 1. True (2 and 3 are prime numbers and their HCF is 1)

ii) HCF of two co-prime number is 1. True (15 and 16 are co-prime numbers and their HCF is 1).

iii) LCM of two prime numbers is equal to their product. True 5 and 11 are prime numbers and their LCM is 55.

iv) LCM of two co-prime numbers is equal to their product. True (4 and 9 are co-prime numbers and their LCM is 36)

4) The product of two numbers is 12096 and their HCF is 36. Find their LCM.

ans $\frac{\text{Product}}{\text{HCF}} = \frac{12096}{36} = 336$

Product = 12096
HCF = 36
LCM = 336

So, their LCM is 336.

5) The product of the HCF and the LCM of two numbers is 1152. If one number is 48, find the other one.

ans product of HCF and LCM = 1152
one no = 48
Other no = 24
~~24 × 48 = 1152~~
So, the other number is 24.

$\frac{\text{Product}}{\text{one no}} = \frac{1152}{48}$

6) i) Find the smallest number that is completely divisible by 28 and 42

ans LCM of 28 and 42 is 84

2	28, 42
7	14, 21
	2, 3

LCM = ~~7×2 = 14~~ 7×2×2×3
= 84

ii) Find the largest number that can divide 28 and 42 completely

ans HCF of 28 and 42 is 14

2	28, 42
7	14, 21
	2, 3

HCF = 7×2 = 14

7) Find the LCM of 140 and 168. Use the LCM obtained to find the HCF of given numbers

ans LCM of 140 and 168 = 840

2	140, 168
2	70, 84
7	35, 42
	5, 6

LCM = 2×2×7×5×6
= 840

Product of 140 and 168 = $\frac{23490}{840} = 28$

8) Find the HCF of 108 and 450 and use HCF obtained to find the LCM of given numbers.

ans- HCF of 108 and 450 = 2×3×3 = 18

2 | 108, 450
3 | 54, 225
3 | 18, 75
6, 25

~~HCF = 2×3×3~~ Product = 108×450 = 48600

$\frac{\text{Product}}{\text{HCF}} = \text{LCM}$ $\frac{48600}{18} = 2700$

So, LCM is 2700.

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