O.C.W
28/6/21

Revision Exercise (Chapter 8)

Page 82

3. i) H.C.F of two prime numbers is 1. [T]

ii) H.C.F of two ~~prime~~ co-prime numbers is 1. [T]

iii) L.C.M of two prime numbers is equal to their product. [T]

iv) L.C.M of two co-prime numbers is equal to their product. [T]

(1.) i) 108, 228, 420

2	108, 228, 420
3	54, 114, 210
19	27, 72, 105
	3, 8, 105

HCF = 105

2	108, 228, 420
2	54, 114, 210
3	27, 72, 105
	9, 28, 35

HCF = 2 × 2 × 3 = 12

Prime factor method

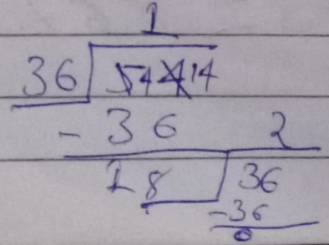
$15 = 3 \times 5$

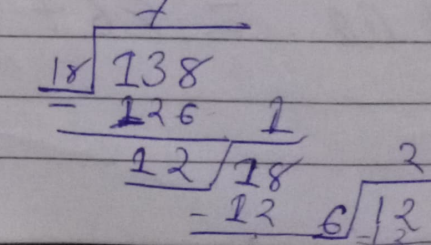
$25 = 5 \times 5 = 5^2$

$LCM = 3 \times 5^2 = 3 \times 5 \times 5 = 75$

HCF (15, 25) = 5

ii) 36, 54, 138 = 6 is the H.C.F.





(3) i) L.C.M. 72, 80, 252 =

2	72, 80, 252
2	36, 40, 126
3	18, 20, 63
3	9, 10, 63
3	3, 10, 21
	1, 10, 7

$= 2 \times 2 \times 2 \times 3 \times 3 \times 10 \times 7 = 5040$

ii) L.C.M. of 48, 66 and 120

2	48, 66, 120
2	24, 33, 60
3	12, 33, 30
3	6, 33, 15
	2, 11, 5

$= 2 \times 2 \times 2 \times 2 \times 3 \times 5 \times 11 = 3960$

(4) The Product of two numbers is 12096 and their H.C.F. is 36. Find the L.C.M.

A→ We know that
Product of two numbers = Product of their H.C.F and L.C.M.

$\Rightarrow 12096 = 36 \times L.C.M.$

$\Rightarrow L.C.M = 12096/36 = 336.$

(5) We know that :-

Product of two numbers = Product of their H.C.F. and L.C.M.

$\Rightarrow$ 1st number $\times$ 2nd number = Product of their H.C.F and L.C.M.

$\Rightarrow$ 48 $\times$ 2nd number = 1152

$\Rightarrow$ 2nd number = 1152/48 = 24

(6) i) We know that the least number which is divisible by 28 and 42 is their L.C.M.

L.C.M. of 28 and 42 ~~Completely~~ will be their H.C.F. of 28 and ~~of~~ 42 = ~~24~~

L.C.M. of 28 and 42 = $2 \times 2 \times 3 \times 7 = 84$

ii) We know that the largest Number which can divide 28 and 42 completely will be their H.C.F. =

H.C.F. of 28 and 42 = 14

7. Nos. are 140 and 168

L.C.M. of 140 and 168

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

= $2 \times 2 \times 7 \times 5 \times 6 = 840$

H.C.F. = $\frac{\text{1st Number} \times \text{2nd Number}}{\text{L.C.M.}}$

$= \frac{140 \times 168}{840} = 28$

8. ~~Natural~~ Numbers are given :- 108 and 450

H.C.F. of 108 and 450 = 28

$$\begin{array}{r|l} 108 & 450 \\ -432 & 4 \\ \hline 18 & \end{array}$$

$$\begin{array}{r|l} 18 & 108 \\ -108 & 6 \\ \hline 0 & \end{array}$$

$\therefore$ L.C.M. = $\frac{\text{1st number} \times \text{2nd number}}{\text{H.C.F.}}$

$= \frac{108 \times 450}{18} = 2700$