Revision Exercise :

1. Find the H.C.F of

(i) 108, 288 and 420

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

2 × 2 × 3 = 12

H.C.F = 12.

(ii) 36, 54, and 138

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

2 × 3 = 6

H.C.F. = 6

2) Find the H.C.M of :

(i) 72, 80, 252

2 | 72, 80, 252
2 | 36, 40, 126
3 | 18, 20, 63
6, 20, 21
2 | 2, 20, 7
2 | 1, 10, 7
1, 5, 7

2 × 2 × 3 × 5 × 2 × 2 × 5 × 7 = 5040

LCM = 5040.

(ii) 48, 66 and 120.

2 | 48, 66, 120	$2\times2\times2\times3\times2\times11\times5$
2 | 24, 33, 60	$= 2640$.
2 | 12, 33, 30	
3 | 6, 33, 15	
2, 11, 5	

LCM = 2640.

2. (i) H.C.F of two prime numbers is 1. True
(ii) H.C.F of two co-prime numbers is 1. True.
(iii) L.C.M of two prime numbers is equal to their product. False
(iv) L.C.M of two co-prime numbers is equal to their product. False.

4. The product of two number = 12096
H.C.F = 36.
L.C.M = $\frac{\text{The product of two numbers}}{\text{H.C.F}}$

$= 12096 \div 36$

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36 | 12096 | 336
  -108
   129
  -108
    216
   -216
      0
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6(i)

$$\begin{array}{r|l} 2 & 28 \text{ and } 42 \\ \hline 7 & 14 \ , \ 21 \\ \hline & 2 \ , \ 3 \end{array}$$

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

∴ The smallest number that is completely divisible by 28 and 42 is 84.

(ii)

$$\begin{array}{r|l} 2 & 28 \ , \ 42 \\ \hline 7 & 14 \ , \ 21 \\ \hline & 2 \ , \ 3 \end{array}$$

$2 \times 7 = 14.$

∴ The ~~smallest~~ largest number that ~~is~~ can ~~completely divisible by~~ divide 28 and 42 completely is 14.

So, the L.C.M of two numbers is 336.

5. The product of HCF and the LCM of 2 nos. = 1152
One number is 48
Other number = The product of HCF and the LCM of 2 nos.
one numbe

$$= 1152 \div 48$$

$$\begin{array}{r} 24 \\ 48\overline{)1152} \\ -96 \\ \hline 192 \\ -192 \\ \hline 0 \end{array}$$

So, the other number is 24.

One number = 140
another number = 168.
LCM = 840

LCM = 840

$$\begin{array}{r|l} 2 & 140, 168 \\ 2 & 70, 84 \\ 7 & 35, 42 \\ 3 & 5, 6 \\ & 5, 2 \end{array}$$

The product of two numbers is always same to the product of their L.C.M and H.C.F.

140
× 168
1120
8400
+ 14000
23520

If the product of the two nos. = 23,520

HCF = $\frac{\text{The product of two nos}}{\text{LCM}}$

= 23,520 ÷ 840

= ~~261~~ 28

~~840) 23520~~
~~− 1680~~
~~6700~~
~~− 5040~~
~~1660~~
~~− 840~~
~~820~~

```
        28
840 ) 23520
    − 1680
       6720
     − 6720
          0
```

So, the ~~LCM~~ H.C.F ~~of~~ = 28

HCF = 3 × 3 × 2 = 18

8. One number = 108
Another number = 450
HCF = 18

3	450, 108
3	150, 36
2	50, 12
	25, 6

The product of two numbers is always same to the product of their LCM and HCF.

(a)
108
× 450
000
5400
43200
48600

If the product of two nos. = 48,600

LCM = $\frac{\text{The Product of two nos.}}{\text{HCF}}$ = 2700

2700
18 | 48,600
-36
126
-126
00
- 0
0
- 0
0

So, the LCM of two nos. = 2700

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