

## Chapter 1 - Real Numbers

**Example 7 :** Find the HCF of 96 and 404 by the prime factorisation method. Hence, find their LCM.

$$\begin{array}{r|l} 2 & 96 \\ \hline 2 & 48 \\ \hline 2 & 24 \\ \hline 2 & 12 \\ \hline 2 & 6 \\ \hline 2 & 3 \\ \hline 3 & 3 \\ \hline & 1 \end{array}$$

$$2^5 \times 3$$

$$\begin{array}{r|l} 2 & 404 \\ \hline 2 & 202 \\ \hline 101 & 101 \\ \hline & 1 \end{array}$$

$$2^2 \times 101$$

$$\text{H.C.F} \rightarrow 2^2 = 4.$$

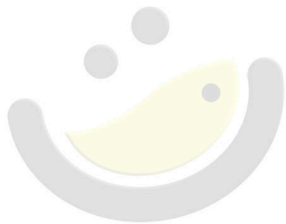
H.C.F  $\times$  L.C.M = Product of Numbers.

$$4 \times \text{L.C.M} = 96 \times 404$$

$$\text{L.C.M} = \frac{96 \times 404}{4} = 96 \times 101$$

$$= 9696$$

	96	101
	-4	1
	9700	
	-4	
	<u>9696</u>	



4. Given that  $\text{HCF}(306, 657) = 9$ , find  $\text{LCM}(306, 657)$ .

H.C.F  $\times$  L.C.M = Product of two numbers

$$9 \times \text{L.C.M} = 306 \times 657$$

$$\text{L.C.M} = \frac{306 \times 657}{9}$$

$$= 34 \times 657$$

$$= \underline{22338}$$

$$\begin{array}{r} 657 \times 34 \\ \hline 18 \quad 3 \quad 3 \quad 8 \\ \hline 22338 \end{array}$$

$$\begin{array}{l} 15 + 24 \\ = 39 \end{array}$$



6. Explain why  $7 \times 11 \times 13 + 13$  and  $7 \times 6 \times 5 \times 4 \times 3 \times 2 \times 1 + 5$  are composite numbers.
7. There is a circular path around a sports field. Sonia takes 18 minutes to drive one round of the field, while Ravi takes 12 minutes for the same. Suppose they both start at the same point and at the same time, and go in the same direction. After how many minutes will they meet again at the starting point?

⑥

$$7 \times 11 \times 13 + 13$$

$$13(7 \times 11 \times 1 + 1)$$

$$13(78)$$

Composite No.

$$7 \times 6 \times 5 \times 4 \times 3 \times 2 \times 1 + 5$$

$$5(7 \times 6 \times 4 \times 3 \times 2 \times 1 + 1)$$

$$5(1008 + 1)$$

$$5(1009)$$

Composite No.

Sonia - 18 Min

Ravi - 12 min.

L.C.M  $\Rightarrow$  18, 12

$$\begin{array}{r|l} 2 & 18 \\ \hline 3 & 9 \\ \hline 3 & 3 \\ \hline & 1 \end{array}$$

$$\begin{array}{r|l} 2 & 12 \\ \hline 2 & 6 \\ \hline 3 & 3 \\ \hline & 1 \end{array}$$

$$2 \times 3^2, 2^2 \times 3$$

$$\text{L.C.M} \rightarrow 2^2 \times 3^2$$

$$= 9 \times 4 = 36$$

$$\begin{array}{r} 18 - 1 \\ 36 - 2 \end{array}$$

$$\begin{array}{r} 12 - 1 \\ 24 - 2 \\ 36 - 3 \end{array}$$

