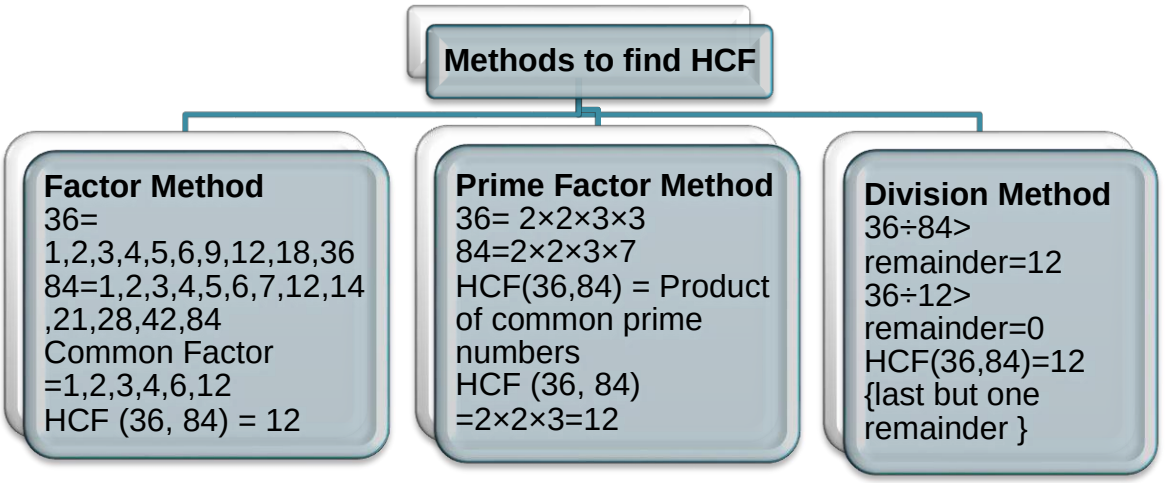
HCF AND LCM

The Highest Common Factor (HCF) of two or more given numbers is the greatest number (factor) which divides each of the given numbers completely

- **FACTOR:** When a number divides another number without leaving remainder is called factor of that number.
- **COMMON FACTOR:** Common factor of two or more given numbers is the one which divides each of the given number completely.

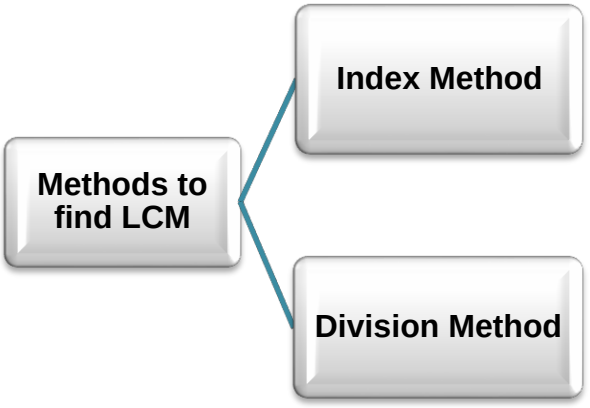


STEPS TO FIND HCF OF THREE OR MORE NUMBERS

- Find the HCF of any two numbers among given numbers
- Find the HCF of the third number and the HCF obtained in previous step
- The last HCF will be the HCF of all given numbers.

The Least Common Multiple (LCM) of two or more given numbers is the lowest number which is completely divisible by each of the given numbers

- **MULTIPLE:** When a number divides another number completely, the second number is called multiple of the first number
- **COMMON MULTIPLE:** A number which can be divided completely by the given two or more numbers is called their common multiple.
- **For any two co prime numbers, their LCM is equal to their product**



Index Method

$12=2\times2\times2\times3=2^3\times3$;

$36=2\times2\times3\times3=2^2\times3^2$;

$40=2\times2\times2\times5=2^3\times5$

$LCM=2^3\times3^2\times5=360$

Division Method

2	24, 36, 40
2	12, 18, 20
2	6, 9, 10
3	3, 9, 5
	1, 3, 5

LCM= 2×2×2×3×1×3×5 = 360

For any two numbers, the product of LCM and HCF is equal to product of the numbers