Factors, Factorial, Unit and Tens Digit

Factors

$N = a^p \times b^q \times c^r$
where a, b and c are prime numbers.

No. of factors
$(p + 1)(q + 1)(r + 1)$
e. g. $72 = 2^3 \times 3^2$
No. of factors
$= (3 + 1)(2 + 1)$
$= 12$

Unit Digit

Remainder when the Number is divided by 10.

Last 2 Digits

Remainder when the number is divided by 100.

Highest Power in a Factorial

Power of Prime Numbers

Divide the continuosly by the prime number till we get the Quotient < Prime Number

Add all the Quotient before the final step
e. g. Highest Power of 5 in 50!

$$\frac{50}{5} = 10$$

$$\frac{10}{5} = 2$$

So answer = 10 + 2 = 12

Power of Composite Numbers

Factorize the numbers into the product of co-primes numbers

Lowest power among the co-primes gives the net power of the number

Trace the Mind Map

- First Level
- Second Level
- Third Level