Factors and Multiples

Factors: A number which divides a given number exactly is called a factor of the given number. Thus, a factor of a number divides it completely without leaving any remainder.

To Find the Factors of a Number

Step 1: Consider the number, say 'x'.
Step 2: Find the number 'y' which divides the given number 'x' completely.
Step 3: 'y' will be considered as the factor of 'x'.

Let's understand with an example:

Example: Find out the factors of 18 and 33.

3×6

1×18↑ 2×9

Solution: 18 =

Thus, 1,2,3,6,9,18 are factors of 18.

33 = 1×33

Thus, 1, 3, 11, 33 are factors of 33.

Properties of Factors

Every non-zero number is a factor of itself.

3×11

1 is a factor of every number.

Every non-zero number is a factor of zero.

The factor of a number are finite.

Every factor of a number is an exact divisor of that number.

Multiples: A multiple of a number is a number obtained by multiplying it by a natural number.

A number is a multiple of each of its factors.

Factors and Multiples

To find the Multiple of a Number

Step 1: Consider the number, say 'x'.
Step 2: Multiply the given number 'x' by any natural number.
Step 3: The number obtained on multiplying are multiple of the given number.

Let's understand with an example

Example: Find out the first five multiples of the following: (i) 4 (ii) 6

Solution: (i) We get, 4×1=4

4×2=8 4×3=12 4×4=16 4×5=20

Hence, 4, 8, 12, 16, 20 are the first five multiple of 4.

(ii) We get,	6×1=6
	6×2=12
	6×3=18
	6×4=24
	6×5=30

Hence, 6, 12, 18, 24, 30 are the first five multiples of 6.

Properties of Multiples

Every number is a multiple of itself.

Every number is a multiple of 1.

Every multiple of a number is greater than or equal to that number. The number of multiple of a given natural number is infinite.