

## Terms related with Multiples

A multiple of a number is the product of the given number and some other counting numbers.

For Example:- Multiples of 2

$$\begin{array}{l} 2 \times 1 = 2 \\ 2 \times 2 = 4 \\ 2 \times 3 = 6 \\ 2 \times 4 = 8 \\ 2 \times 5 = 10 \\ 2 \times 6 = 12 \\ 2 \times 7 = 14 \end{array} \quad \left. \vphantom{\begin{array}{l} 2 \times 1 = 2 \\ 2 \times 2 = 4 \\ 2 \times 3 = 6 \\ 2 \times 4 = 8 \\ 2 \times 5 = 10 \\ 2 \times 6 = 12 \\ 2 \times 7 = 14 \end{array}} \right\} \rightarrow \text{Multiples of 2}$$

## PROPERTIES OF MULTIPLES

1. Every number is a multiple of 1.

**Examples:**  $5 \times 1 = 5$ ,  $13 \times 1 = 13$ ,  $108 \times 1 = 108$

2. Every number is a multiple of itself.

3. Every multiple of a counting number is either **greater than** or **equal to** the number.

**Example:** The first four multiples of 4 are 4, 8, 12, 16.

4. The first and the smallest multiple of a number is the number itself.

5. There are infinite multiples of a number. So, the largest multiple of a number cannot be determined.

**Note:-**

To check if bigger number is a multiple of the smaller number, we divide the bigger number by the smaller number. If the remainder is 0, it means the bigger number is a multiple of the smaller number.

**Example :- Is 93 a multiple of 7?**

**Solution:-**

$$\begin{array}{r} 13 \\ 7 \overline{)93} \\ \underline{-7} \phantom{0} \\ 23 \\ \underline{-21} \\ 2 \end{array}$$

Since remainder is not 0 , 7 does not divide 93 exactly.

So, 93 is not a multiple of 7.

### Even and Odd Numbers

A number which ends with 0, 2, 4 , 6 or 8 are called even number.

**Example :-** 12, 24, 36 , 48, 60 are some of the even numbers.

A number which ends with 1, 3, 5, 7 or 9 are called odd numbers.

**Example:-** 11, 13, 19, 45, 87 are some of the odd numbers.

### COMMON MULTIPLES

The numbers which are common among the multiples of two or more numbers are called **common multiples**.

Let us find common multiples of 6 and 8.

**Multiples of 6** are 6, 12, 18, 24, 30, 36, 42, 48, ...

**Multiples of 8** are 8, 16, 24, 32, 40, 48, 56, ...

**Common multiples of 6 and 8** are 24, 48, ...