

# MATH



## CHAPTER 1: NUMBERS

NUMBERS

## ➤ INTRODUCTION

The number system contains ten digits 0, 1, 2, 3, 4, 5, 6, 7, 8, 9.

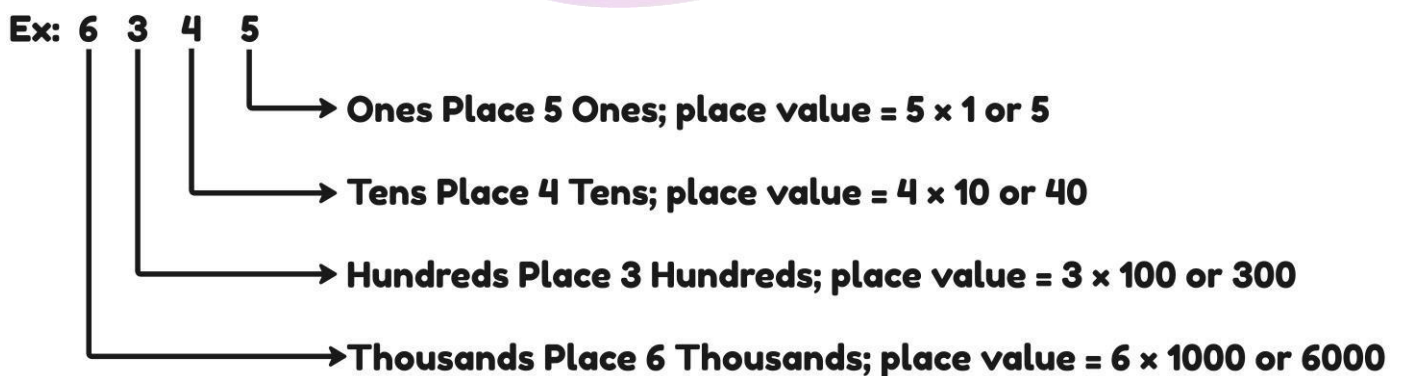
**Largest and smallest numbers:**

- ❖ The smallest one digit number is 1.
- ❖ The largest one digit number is 9.
- ❖ The smallest two digit number is 10.
- ❖ The largest two digit number is 99.
- ❖ The smallest three digit number is 100.
- ❖ The largest three digit number is 999.
  - 10 Ones = 1 Ten
  - 10 Tens = 1 Hundred
- ❖ 10 Hundreds = 1 Thousand

**Place Value of each digit in a number:**

In a four digit number, there are four places named:

One's place. Tens place. Hundreds place and Thousands place. ×

**Example:**

**Ascending Order of numbers:**

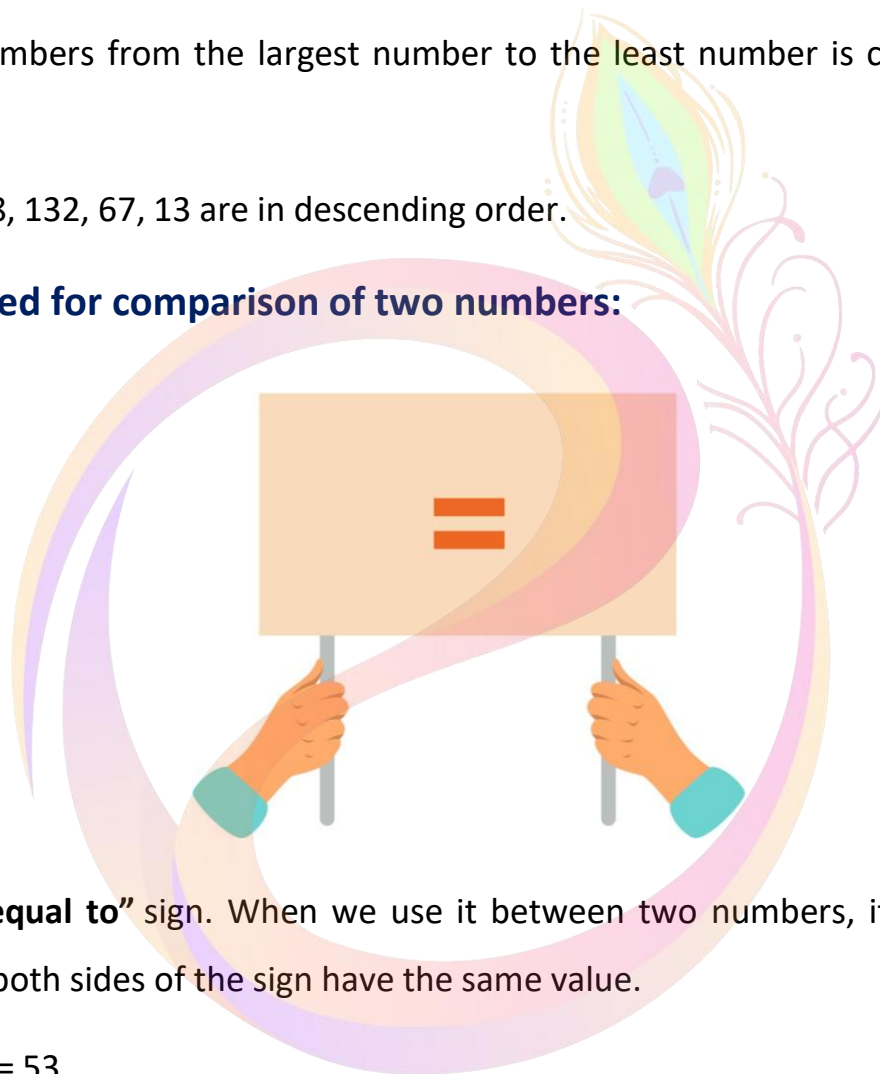
Arranging numbers from the least number to the largest number is called Ascending Order.

**Example:** 13, 67, 132, 168 are in ascending order

**Descending Order of numbers:**

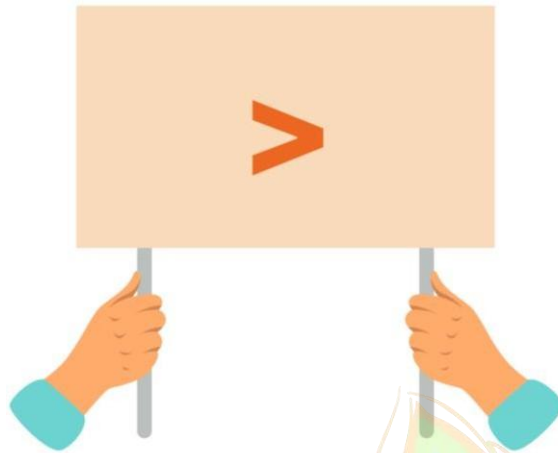
Arranging numbers from the largest number to the least number is called Descending Order.

**Example:** 168, 132, 67, 13 are in descending order.

**Symbols used for comparison of two numbers:**

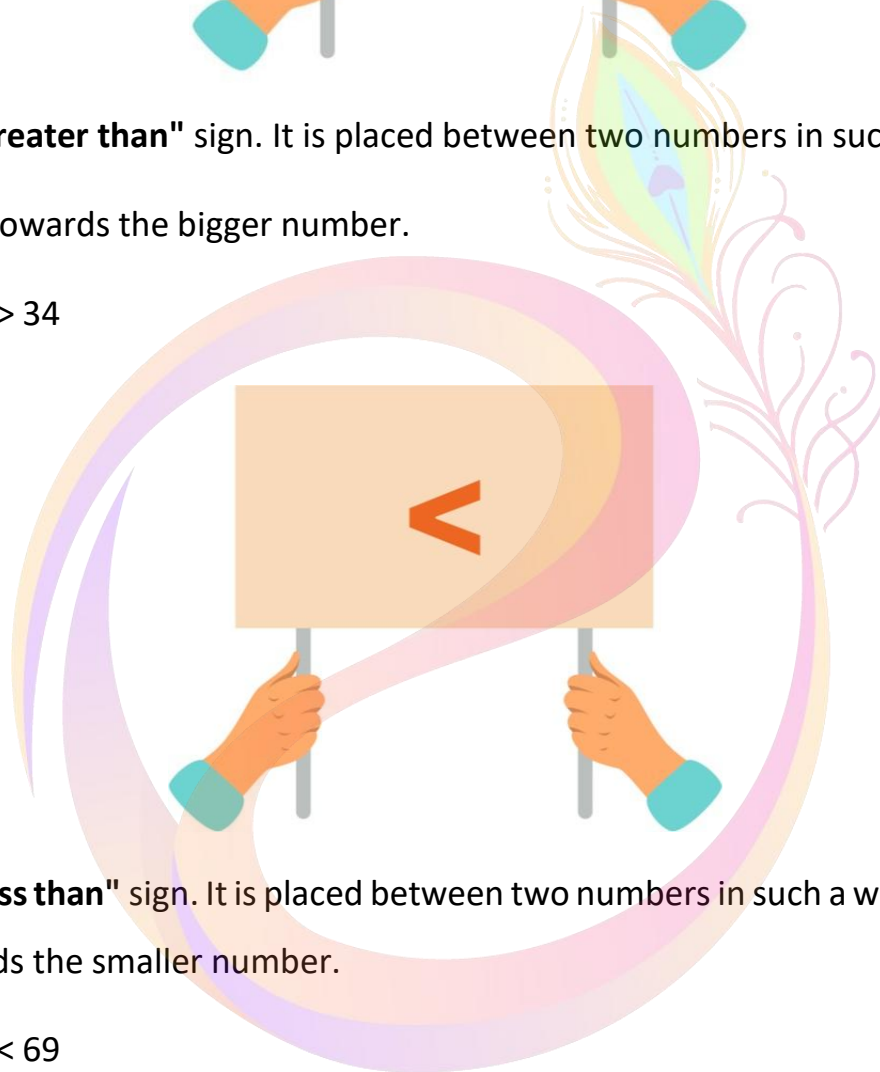
This is the "**equal to**" sign. When we use it between two numbers, it means that the numbers on both sides of the sign have the same value.

**Example:**  $53 = 53$



This is the "**greater than**" sign. It is placed between two numbers in such a way that the open side is towards the bigger number.

**Example:**  $43 > 34$



This is the "**less than**" sign. It is placed between two numbers in such a way that the closed side is towards the smaller number.

**Example:**  $57 < 69$

Rules for comparison of numbers:

**Rule 1:**

A numeral containing more digits is greater.

**Example:**  $163 > 35$



The numbers that have 2, 4, 6, 8 and 0 in the ones place are called even numbers.

**Example:** 4,32, 168, 490

### Odd numbers:

The numbers that have 1, 3, 5, 7 and 9 in the ones place are called odd numbers.

## ➤ NUMBER SENSE AND NUMERATION

### Introduction

Everything is counted by numbers. Numbers are the symbolic representation of counted objects. Categorized numbers are basically dependent on their factors and divisibility.

### Types of Number

#### ❖ Natural Numbers

Counting numbers are known as natural numbers.

**For example:** natural numbers (N) = {1, 2, 3, 4, 5 ?.. infinite}

#### ❖ Whole Numbers

Counting numbers including 0 are known as whole numbers.

**For example:** whole numbers (W) = {0, 1, 2, 3, 4?. infinite}

#### ❖ Prime Numbers

Those numbers having two factors 1 and the number it self are called prime numbers.

**For example:** prime numbers (P) = {2, 3, 5, 7, 11, 13 etc.}

#### ❖ Twin Numbers

Two numbers with difference of 2 are called twin primes.

**For example:** {3, 5}, {5, 7}, {11, 13} etc.

**Note:** 2 is even prime number.

#### ❖ Composite Numbers

Numbers having more than two factors, 1 and the number itself, are called composite numbers.

**For example:** {4, 6, 8, 9, 10 etc.}

### ❖ Even Number

Numbers which are exactly divisible by 2 are called even numbers.

**For example:** {2, 4, 6, 8, etc.}

### ❖ Odd Numbers

Numbers that are not exactly divisible by 2 and leaves remainder are called odd numbers.

For example: {1, 3, 5, 7 etc.}

### Example:

Quotient of division of a number is an odd number. Which one of the following is correct about the dividend if divisor is greater than 1?

- (a) Dividend is an even number
- (b) Dividend is a composite number
- (c) Dividend is a prime number
- (d) All the above
- (e) None of these

**Ans. (d) Explanation:** Quotient can be odd number for even, composite and prime number.