

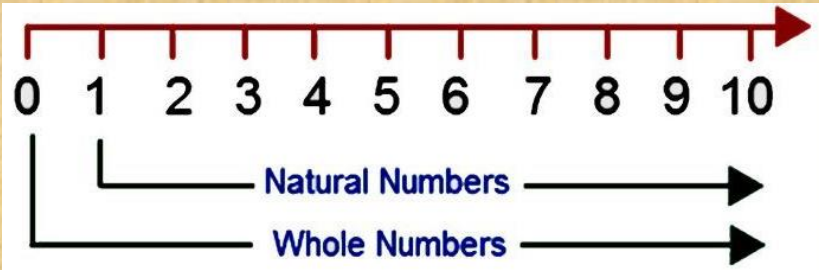
CHAPTER 02

Whole Numbers

REPRESENTATION OF NUMBERS ON THE NUMBER LINE

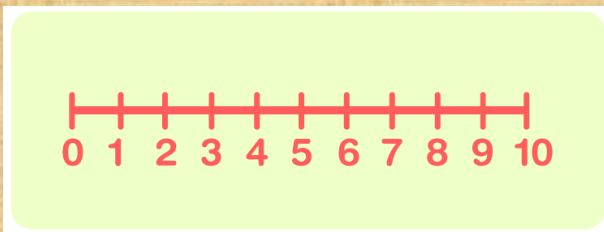
A **number line** starting from 0 (Zero) and marked 1, 2, 3, 4, 5, 6, 7, 8, at equal distances on the right-hand side of 0 is called a **number line** representing **whole numbers**.

The representation is shown here



On the number line shown above, you can see that the successor of any number will lie to the right of that number.

For example, the successor of 3 is 4. 4 is greater than 3 and lies on the right hand side of number 3.

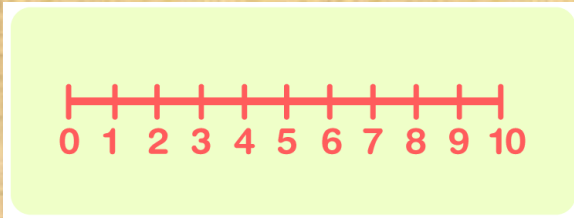


$$4 > 3$$

Another **example**

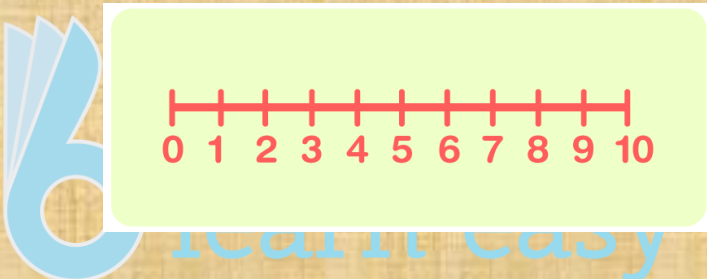
Consider numbers 12 and 8.

12 lies to the right of 8 and hence it is greater than 8.



$$12 > 8$$

Now can we say that all the numbers that lie on the right hand side of that number are greater than the number?

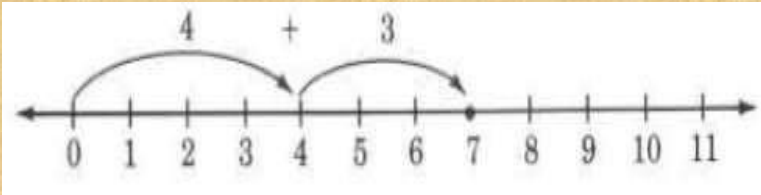


OPERATIONS ON WHOLE NUMBERS USING NUMBER LINE

Let's visualize, the addition of 4 and 3 using the number line.

- To find $4 + 3$
 - Start at zero.
 - Move to the right 4 units. We are now located at 4.
 - From 4, move right by 3 units. We are now located at 7

Thus, $4 + 3 = 7$.



Find $4 + 3$

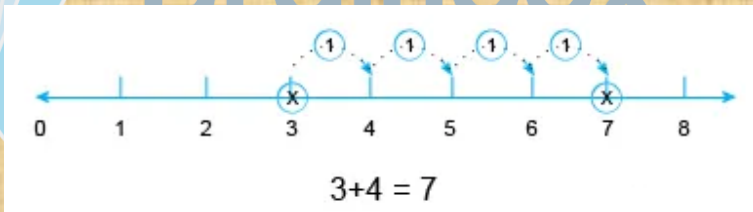
- Start at 0.
- Move to the right 4 units. We are now located at 4.
- From 4, move to the right 3 units. We are now located at 7

Thus, $4 + 3 = 7$

Example 2:

➤ Start from number 3.

We make 4 jumps to the right on the number , then we will reach at 7.



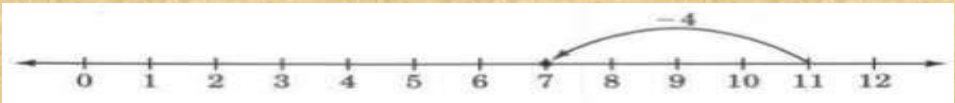
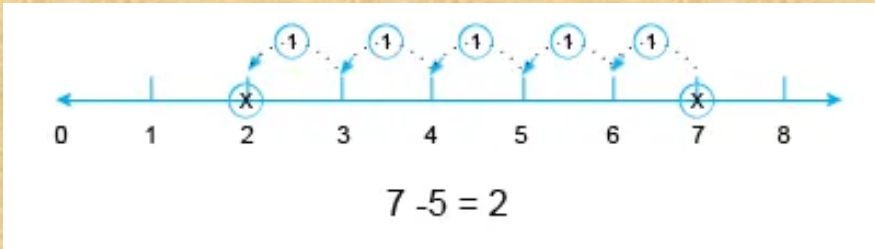
Subtraction of Whole Numbers on Number Line:

Start from 11, we have to subtract 4 from 11 so We make 4.

Jumps to the left on the number line, then we will reach at 7.

- ▶ Start from 7, we subtract 5 from 7. We make 5 jumps to the left on the number line, then we will reach 2.

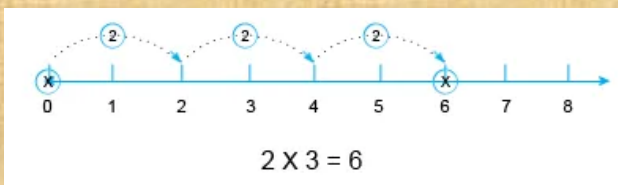
So, $7 - 5 = 2$.



Multiplication of Whole Numbers on Number Line:

Example 1: Find the product of 2 and 3 using a number line.

- ▶ Multiplication of 2 and 3 is as follows.
- ▶ Start from 0, move 2 units to the right each time, making 3 such moves. We will reach 6.
- ▶ So, $2 \times 3 = 6$.



Example 2: Find the product of 3 and 5 using a number line.

- ▶ Multiplication of 3 and 5 is as follows.

- ▶ Start from 0, move 5 units to the right each time, making 3 such moves. We will reach number 15.

So, $3 \times 5 = 15$.

