

# CHAPTER 2

VI-MATHEMATICS-NCERT  
2. WHOLE NUMBERS (NOTES)  
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- 1, 2, 3, 4,... counting numbers as **Natural numbers**.
- Predecessor and successor**: Just before number is called predecessor and just after number is called successor.
- If you add 1 to a number, we get its successor. If you subtract 1 from a number, you get its predecessor.

### Try These

1. Write the predecessor and successor of 19; 1997; 12000; 49; 100000.

Predecessor	Number	Successor
18	19	20
1996	1997	1998
11999	12000	12001
48	49	50
99999	100000	100001

2. Is there any natural number that has no predecessor?

**Sol:** The natural number 1 has no predecessor.

3. Is there any natural number which has no successor? Is there a last natural number?

**Sol:** Every natural numbers has a successor. There is no last natural number.

### Whole Numbers

The natural numbers along with zero form the collection of whole numbers.

Whole numbers (W) = {0, 1, 2, 3, 4, 5, ...}

Every whole number has a successor. Every whole number except zero has a predecessor.

### Try These

1. Are all natural numbers also whole numbers?

**Sol:** Yes, all natural numbers also whole numbers.

2. Are all whole numbers also natural numbers?

**Sol:** No, 0 is a whole number but not natural number.

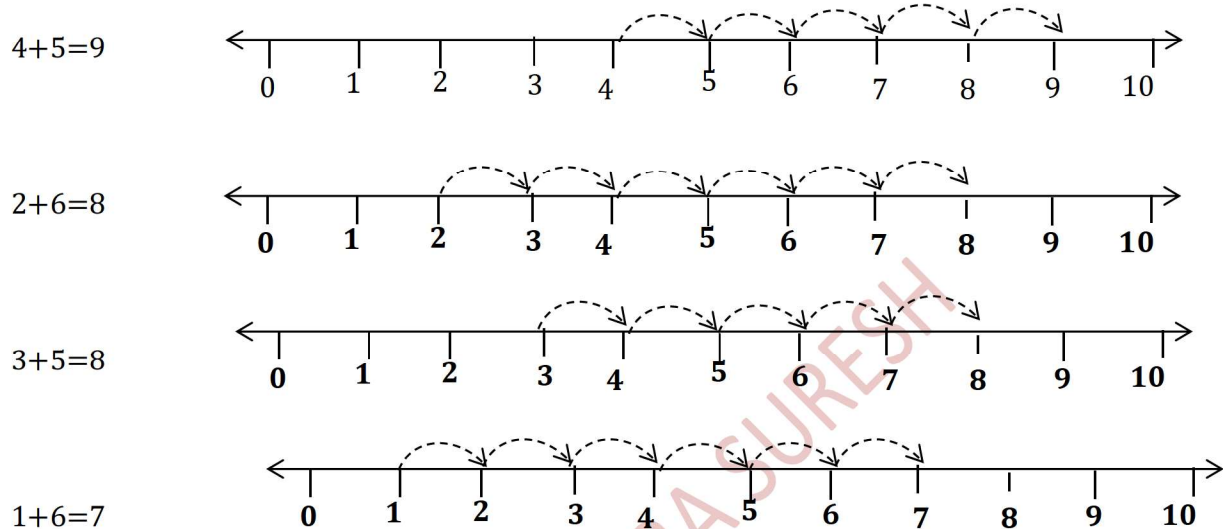
### 3. Which is the greatest whole number?

**Sol:** There is no greatest whole number.

### Try These

In addition move towards right with 1 jump of 1 unit.

Find  $4 + 5$ ;  $2 + 6$ ;  $3 + 5$  and  $1 + 6$  using the number line

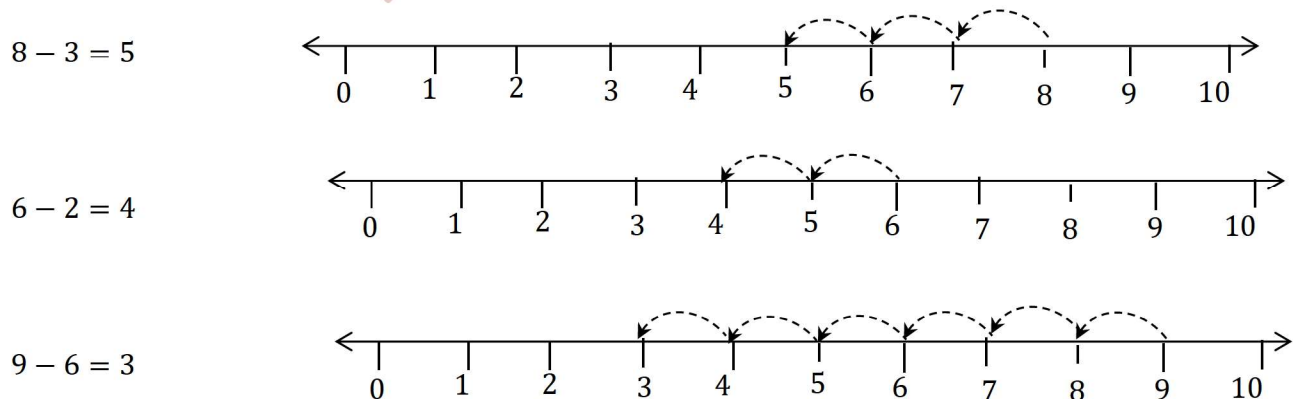


### Subtraction on the number line:

In subtraction move towards left with 1 jump of 1 unit.

### Try These

Find  $8 - 3$ ;  $6 - 2$ ;  $9 - 6$  using the number line

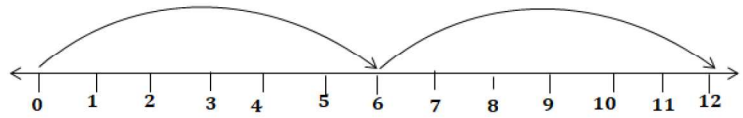


### Multiplication on the number line

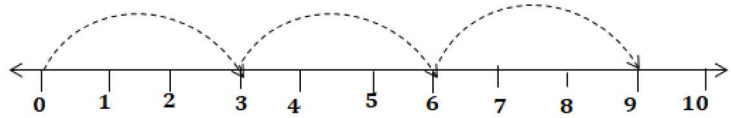
### Try These

Find  $2 \times 6$ ;  $3 \times 3$ ;  $4 \times 2$  using the number line.

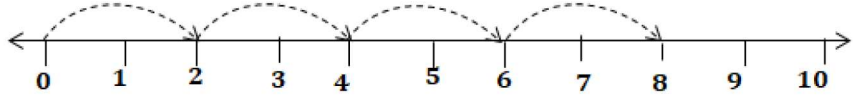
$$2 \times 6 = 12$$



$$3 \times 3 = 9$$



$$4 \times 2 = 8$$



## EXERCISE 2.1

1. Write the next three natural numbers after 10999.

**Sol:** 11,000; 11,001; 11,002

2. Write the three whole numbers occurring just before 10001.

**Sol:** 9,998; 9,999; 10,000

3. Which is the smallest whole number?

**Sol:** 0(zero)

4. How many whole numbers are there between 32 and 53?

**Sol:**  $(53 - 32) - 1 = 21 - 1 = 20$

5. Write the successor of

(a) 2440701 (b) 100199 (c) 1099999 (d) 2345670

**Sol:** (a) Successor of 2440701 is  $2440701 + 1 = 2440702$

(b) Successor of 100199 is  $100199 + 1 = 100200$

(c) Successor of 1099999 is  $1099999 + 1 = 1100000$

(d) Successor of 2345670 is  $2345670 + 1 = 2345671$

6. Write the predecessor of :

(a) 94 (b) 10000 (c) 208090 (d) 7654321

**Sol:** (a) predecessor of 94 is  $94 - 1 = 93$ .

(b) Predecessor of 10000 is  $10,000 - 1 = 9,999$ .

(c) Predecessor of 208090 is  $2,08,090 - 1 = 2,08,089$ .

(d) Predecessor of 7654321 is  $7654321 - 1 = 7654320$ .

7. In each of the following pairs of numbers, state which whole number is on the left of the other number on the number line. Also write them with the appropriate sign ( $>$ ,  $<$ ) between them.

(a) 530, 503 (b) 370, 307 (c) 98765, 56789 (d) 9830415, 10023001

Sol: (a)  $530 > 503$  (b)  $370 > 307$  (c)  $98765 > 56789$  (d)  $9830415 < 10023001$

8. Which of the following statements are true (T) and which are false (F) ?

(a) Zero is the smallest natural number. (F)

(1 is the smallest natural number)

(b) 400 is the predecessor of 399. (F)

(400 is the successor of 399)

(c) Zero is the smallest whole number. (T)

(d) 600 is the successor of 599. (T)

(e) All natural numbers are whole numbers. (T)

(f) All whole numbers are natural numbers.

(g) The predecessor of a two digit number is never a single digit number. (F)

(The predecessor of 10 is 9 a single digit number)

(h) 1 is the smallest whole number. (F)

(0 is the smallest whole number)

(i) The natural number 1 has no predecessor. (T)

(j) The whole number 1 has no predecessor. (F)

(0 is the predecessor of 1)

(k) The whole number 13 lies between 11 and 12. (F)

(No whole numbers between 11 and 12)

(l) The whole number 0 has no predecessor. (T)

(m) The successor of a two digit number is always a two digit number. (F)

(The successor of 99 is 100 a three digit number)

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