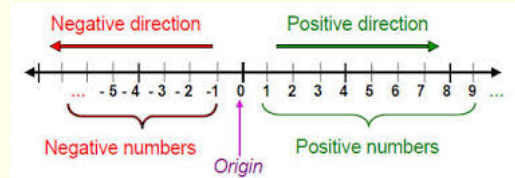


9.1 Integers on the Number Line

Negative and positive numbers (also called INTEGERS) are often used to show opposite situations. Zero is considered to be the starting point, or the origin. These numbers are often shown on a number line.



{ }

The set of all integers can be written

{... -3, -2, -1, 0, 1, 2, 3 ...}

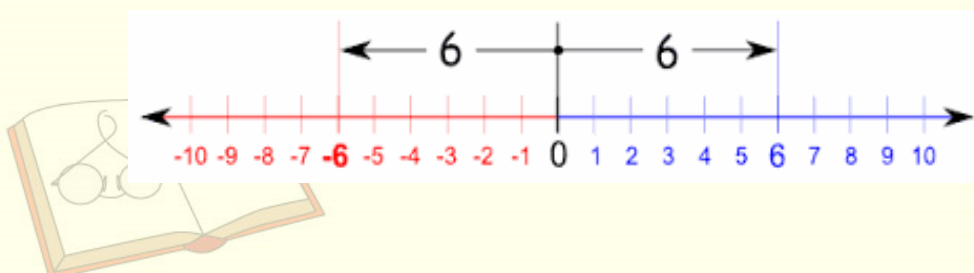
Can you think of an integer that is neither positive nor negative??

Zero

Integers are whole numbers and their opposites.

Opposites are two numbers that are the same distance from zero on a number line, but on opposite sides of zero.

For example, on this number line, -6 and 6 are the same distance from the center which means they are opposites of each other.



Situations that involve **growth or increase** are usually represented by **positive integers**.

Situations that involve **decline or decrease** are usually represented by **negative integers**.

EXAMPLES: Write the integer that describes the situation.

1.) loss of 8 yards 2.) 4 degree rise in temperature

-8

$+4$ or 4

3.) 50 foot drop in altitude

4.) debt of \$500

-50

-500

5.) 10 pound gain

6.) stock value unchanged

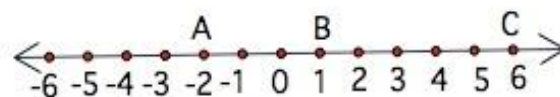
$+10$ or 10

0

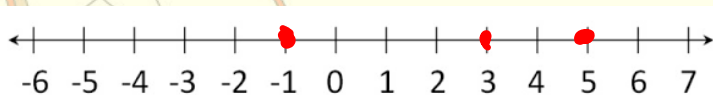
To graph a particular set of integers, locate the integer points on a number line.

The number that corresponds to a point on the number line is called the **COORDINATE** of the point. They are labeled as capital letters on the number line.

Name the coordinates of A, B, and C.



-2 1 5



Graph $\{-1, 3, 5\}$ on a number line.