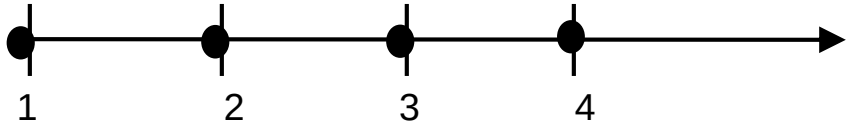
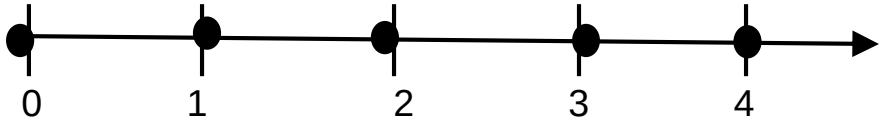
# Math-2 Lesson 2-1 VOCABULARY (Number Systems)

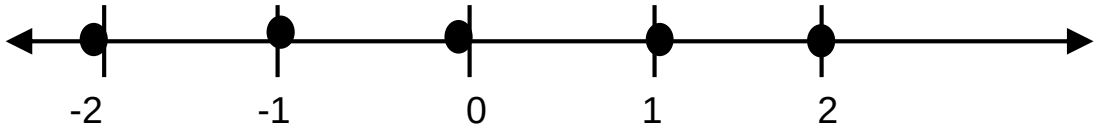
Natural numbers: the ***positive "counting" numbers*** that are usually shown on a number line.




Whole numbers: the natural numbers and the number zero.




Integers: the whole numbers and the negative "counting" numbers.




Rational numbers: can be written as a ratio of integers: ½, -⅔, etc.

Irrational numbers: cannot be written as a ratio of integers: ½, -⅔, etc.

The decimal version of an irrational number never terminates and never repeats. (0 = 5.13257306…).

If we see the radical symbol, the number is usually irrational (unless it is a "perfect square).

$\sqrt{3}$ $\sqrt{4} = 2\,(\text{rational } \#)$

# Math-2 Lesson 2-1 (More) VOCABULARY (Number Systems)

real numbers: any number that can be found on the number line.

imaginary numbers: a number that includes the square root of a negative number. $\sqrt{-1}$

$$\sqrt{-3} = \sqrt{(-1)*3} = \sqrt{(-1)}*\sqrt{3} = i\sqrt{3}$$

Closure: a number system is "closed" for a particular operation (add, subtract, multiply, divide, etc.) when two numbers have an operation performed on them and the resulting number is still in the number system.

We say that whole numbers and natural numbers are not closed "under" subtraction (for example: 1 – 2 = -1 (not a natural number).