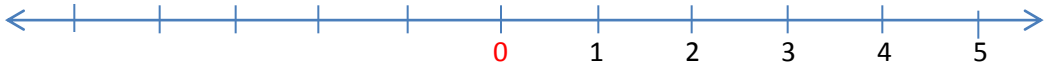
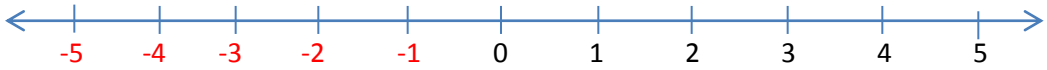
Real Numbers

1. **Natural (Counting) Numbers**: {1, 2, 3, 4, 5, …}

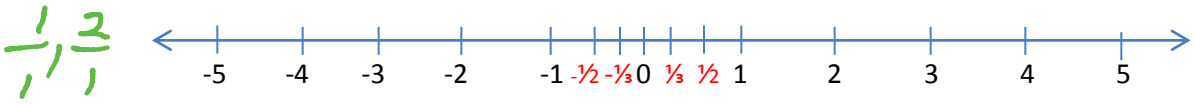
2. **Whole Numbers**: {0, 1, 2, 3, 4, 5, …} WHOLE NUMBERS = NATURAL NUMBERS + 0



3. **Integers Numbers**: {…, -5, -4, -3, -2, -1, 0, 1, 2, 3, 4, 5, …} INTEGERS = NATURAL NUMBERS + THEIR OPPOSITES + 0



4. **Rational Numbers**: {any number that can be written as a fraction}



Rational Numbers are either repeating or terminating decimals

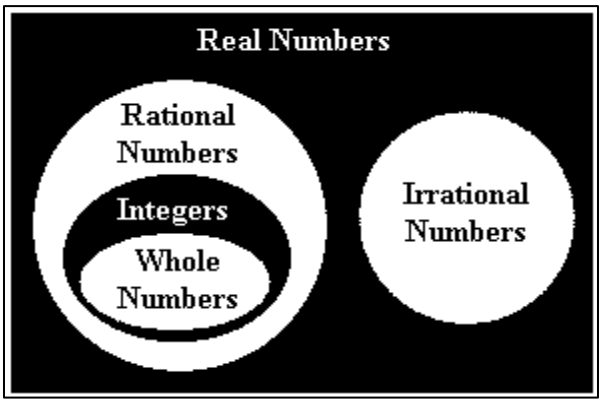
Ex. ½ = 0.5 is a terminating decimal, so the decimal representation of ½ is also a rational number.

Ex. ⅓ = 0.333.. is a repeating decimal, so the decimal representation of ⅓ is also a rational number.

Ex. 4 = 4/1 = 4.0 is a terminating decimal, so 4 is a rational number.

5. **Irrational Numbers**: {any number that is not a rational}

Ex. $\sqrt{5} \cong 2.236067977$ is a non-repeating, non-terminating decimal and is therefore irrational.
Ex. $\pi \cong 3.141592654$ is a non-repeating, non-terminating decimal and is therefore irrational.



The Real Number Line: