Know the sets of numbers used in Math.

Complex Numbers

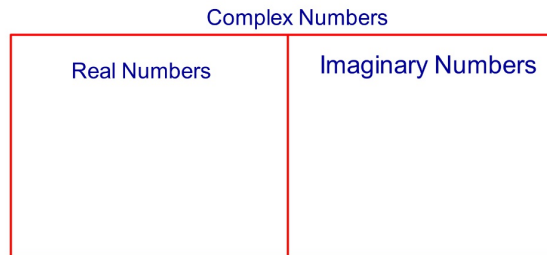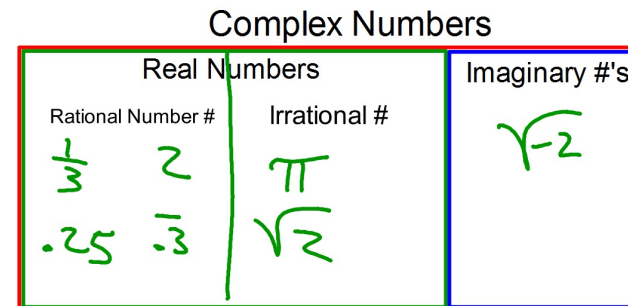| Real Numbers	Imaginary Numbers

Complex Numbers represents EVERY number.
Real Numbers and Imaginary Numbers are the two subgroups of the Complex Numbers.

Know what set of numbers each term represents and use them correctly.

Rational Number #   vs.   Irrational #

Complex Numbers

| Real Numbers		Imaginary #'s
Rational Number #	Irrational #	$\sqrt{-2}$
$\frac{1}{3}$ 2	π	
.25 $.\bar{3}$	$\sqrt{2}$	

Rational Numbers are numbers that can be written as a fraction(ratio). They are all terminating and repeating decimals.
Irrational Numbers are numbers that can't be written as a fraction. They are non-terminating and non-repeating decimals.
Imaginary numbers occur when you tried to square root negative numbers.

Know what set of numbers each term represents and use them correctly.

Whole #'s   Natural #'s

Integers

Complex Numbers

Real Numbers
- Rational #'s
  - Integers
    - Whole #'s
      - Natural #'s
- Irrational #'s
Imaginary #'s
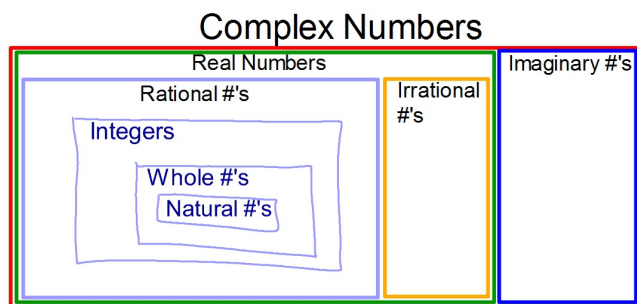
Integers: Numbers you typically see on a number line, e.g., ...-3, -2, -1, 0, 1, 2, 3,...
Whole Numbers: The non-negative Integers, e.g., 0, 1, 2, 3, 4, ...
Natural Numbers(also called the Counting Numbers): The Positive Integers, e.g., 1, 2, 3, 4, ...

- Know what is meant by the phrase: "Function Notation"

  Instead of y =, you will see... $f(x)$ or $g(a)$ etc.

- Understand what something written in Function Notation means.   given $f(a) = 5a^2 - |a + 4|$ find f(-2).   → replace a with -2.

  $f(-2) = 5(-2)^2 - |-2+4| = 5(4) - |2| = 20 - 2 = \boxed{18}$

- Be able to write something in Function Notation.

  Write the area of a square, A, as a function of the length of a side, s.

  $A(s) = s^2$

Use this function: $g(w) = w^2 - 3w + 2$

1. Find $g(-7)$

subsitute -7 for w
and simplify

$g(-7) = (-7)^2 - 3(-7) + 2$

$= 49$

2. Find w when $g(w) = 12$

substitute
12 for g(w)
& solve for w

$12 = w^2 - 3w + 2$
$-12 \qquad\qquad -12$

$0 = w^2 - 3w - 10$

Solve by factoring or Quadratic Formula.

$\begin{array}{c} -10 \\ -5 \quad 2 \\ -3 \end{array}$

$(w-5)(w+2) = 0$

$w = 5, -2$