Types of Number

Natural Numbers (**Z+**)

1, 2, 3, 4...

Integers (**Z**)

-3, -2, -1, 0, 1, 2, 3...

(the Whole Numbers and whole negative numbers)

Rational Numbers (**Q**)

$\frac{1}{3}$, $\frac{2}{5}$, $\frac{-3}{7}$, $4\frac{1}{100}$, $0.76 = \frac{76}{100}$, $0.66\dot{6} = \frac{2}{3}$

(any number that can be written as a fraction)

Irrational Numbers

π, $\sqrt{2}$, $2\sqrt{3}$

(**not** Rational Numbers)

Real Numbers (**R**)

-- All of the above --

Imaginary Numbers

$\sqrt{-1}$, $\sqrt{-100}$

(**not** Real Numbers, square root of any negative number)

Complex Numbers (**C**)

-- All of the above --

Always, Sometimes, Never

An integer is a rational number

A rational is an integer

A number is either rational or irrational, but not both

A real number is rational

An irrational number is real

An imaginary number is irrational

Classify the Numbers

0.45	3.1415914159...	3.14
10	$\dfrac{5}{3}$	$-\sqrt{81}$
$\sqrt{72}$	$-\dfrac{9}{3}$	$(\sqrt{2})^2$
$\dfrac{\pi}{\pi}$	$0.\dot{1}$	$\sqrt{-1}$

Venn Diagram

Rational Numbers

Integers

Natural Numbers

Irrational Numbers

Real Numbers

Imaginary Numbers

Complex Numbers