

NUMBER SYSTEMS

COUNTING NUMBERS {1, 2, 3, 4...}

WHOLE NUMBERS {0, 1, 2, 3, 4...}

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

RATIONAL NUMBERS Can be written as fractions of integers

$$\frac{a}{b} \text{ where } a \text{ and } b \text{ are integers, and } b \neq 0$$

As decimals, rational numbers terminate (4.34234) or repeat (4.13333...)

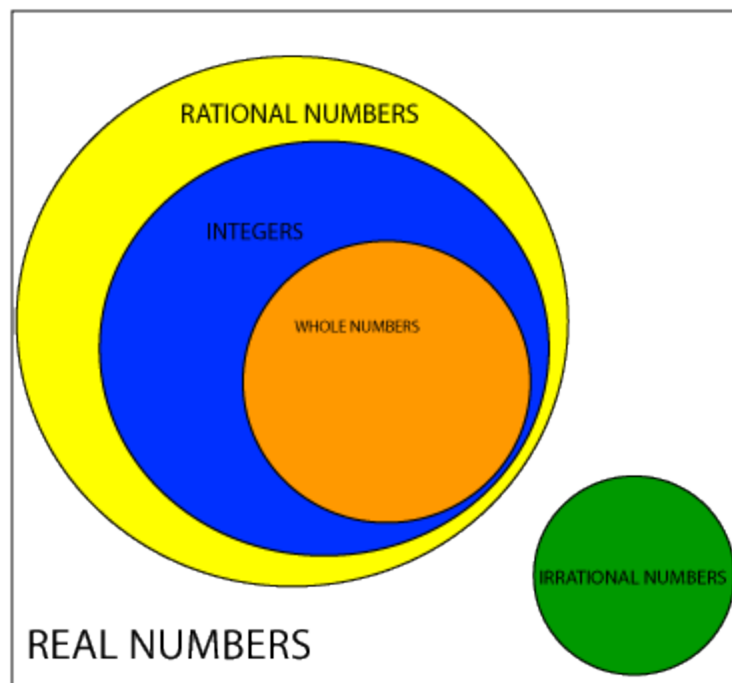
IRRATIONAL NUMBERS Cannot be written as fractions of integers

As decimals, irrational numbers are non-terminating and non-repeating. (3.14159...)

Three major examples: $\pi, e, \sqrt{2}$

REAL NUMBERS All of the above.

COMPLEX NUMBERS Include "i" or imaginary numbers (square roots of negative numbers, for example)



PRIME NUMBERS a) Natural number greater than 1

b) Has two natural number divisors; itself, and 1

(2, 3, 5, 7, 11, 13, 17, 19, 23...)