

Real Number System ER2

real #s - set of all rational & irrational #s (\mathbb{R}) \mathbb{R}

rational #s - all numbers that can be expressed as a ratio (\mathbb{Q}) (fraction)

ex: $12 = \frac{12}{1}$, $-13 = \frac{-26}{2}$, $1.5 = \frac{3}{2}$, $.6 = \frac{2}{3}$, $-2\frac{3}{4} = -\frac{11}{4}$

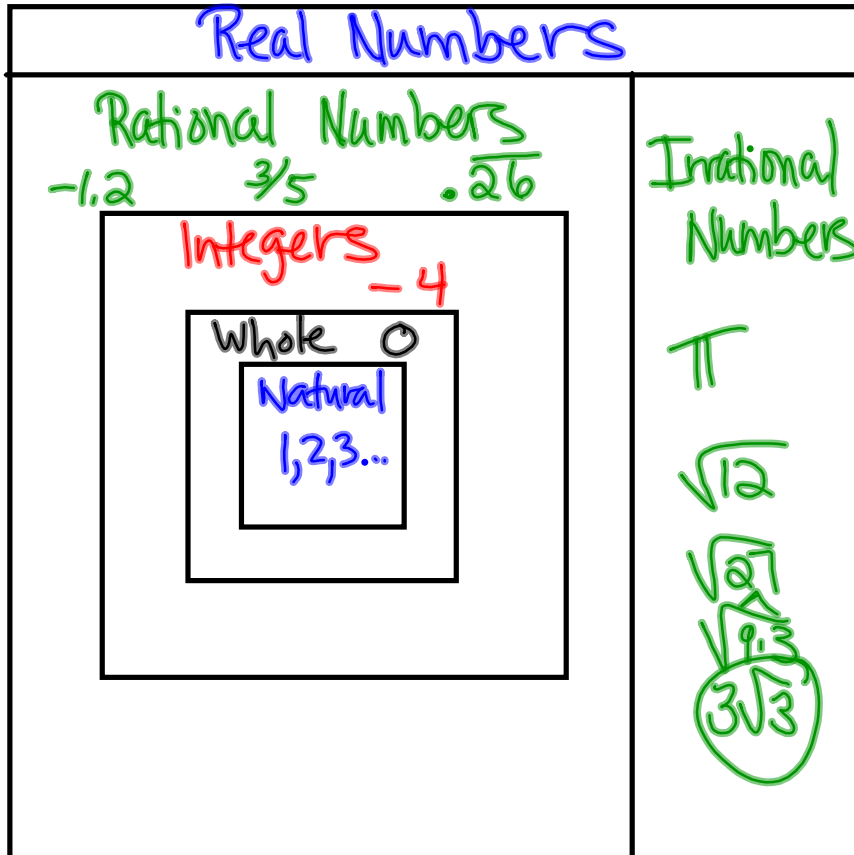
irrational #s - can not be expressed as a ratio, (fraction)

- 1) non-terminating, non-repeating decimals ex: π 
- 2) if a radical sign is present after simplifying ex: $\sqrt{2}$ 

integers - all whole #s and their opposites: $-2, -1, 0, 1, 2, \dots$ (\mathbb{Z})

whole #s - natural #s and zero: $0, 1, 2, 3, \dots$ (\mathbb{W})

natural #s - counting #s: $1, 2, 3, \dots$ (\mathbb{N})



$$\sqrt{-20}$$

$$\sqrt{-4.5}$$

$$2i\sqrt{5}$$

imaginary #s

$$\sqrt{-16} = 4i$$

$$\sqrt{-1} = i$$