

Notes:

3.1 - Classifying Numbers

NATURAL NUMBERS (N)

Example: 1, 2, 3, 4 ...

- No fractions or decimals
- Does not include zero

Whole Numbers = 0, 1, 2, 3, 4 ...

INTEGERS (I)

Example: ... -2, -1, 0, 1, 2 ...

- both positive and negative numbers
- No fractions, decimals

IRRATIONAL NUMBERS (\bar{Q})

-when converted to decimal form they are:

*non-terminating

*non-repeating

therefore they cannot be written as fractions

Examples:

$$\pi = 3.141592654 \dots$$

$$\sqrt{2} = 1.414213562 \dots$$

$2\sqrt{2}$ = will be irrational
b/c $\sqrt{2}$ is irrational

RATIONAL NUMBERS (Q)

-numbers that can be written in fraction form.

Examples:

$$-5 = -\frac{5}{1} \text{ or } -\frac{5}{1}$$

$$0.25 = \frac{25}{100} = \frac{1}{4}$$

$$0.\bar{1} = 0.11111\dots = \frac{1}{9}$$

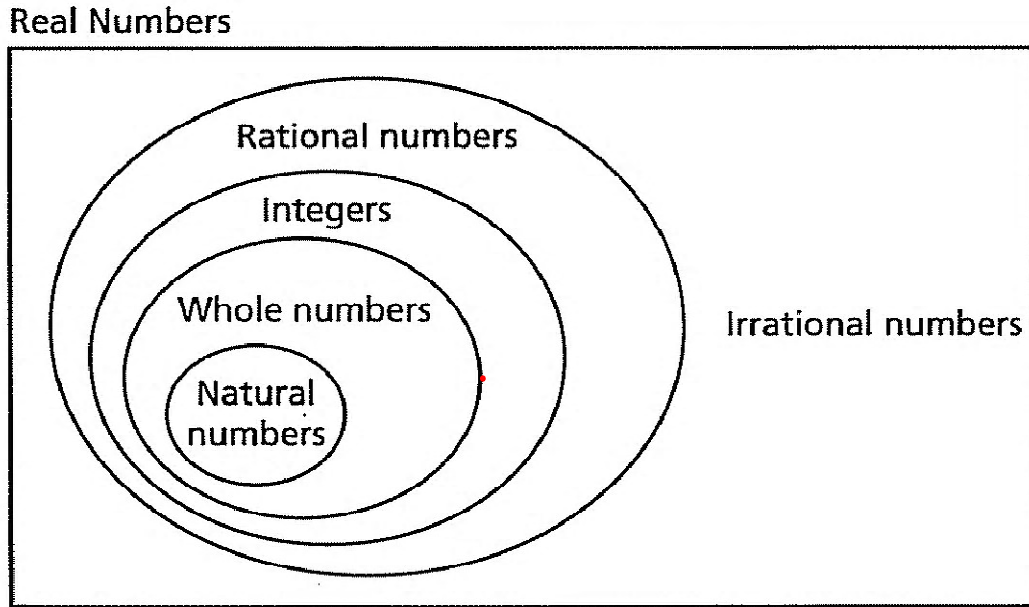
$$0.\overline{18} = 0.181818\dots = \frac{18}{99}$$

$$0.\overline{148} = \frac{148}{999}$$

REAL NUMBERS

-all numbers that can be expressed in decimal form

Summary Chart:



Example #1: Use a number line to order these numbers from least to greatest.

