

**Content and Language Objective:**

**Students will explore the different categories used to label numbers and be able to explain the difference between the different categories.**

**Warm-Up**

**On a note card put your name and write at least three math topics that you struggle with.**

**Content and Language Objective:**

**Students will explore the different categories used to label numbers and be able to explain the difference between the different categories.**

**Keywords:**

- **Set Braces**
- **Natural Numbers**
- **Whole Numbers**
- **Integers**
- **Rational Numbers**
- **Real Numbers**
- **Irrational Numbers**
- **Approximately Equal**

### Content and Language Objective:

Students will explore the different categories used to label numbers and be able to explain the difference between the different categories.

Set Braces:	are used to enclose elements of a set. { }
Natural #'s:	are the counting numbers. $N = \{ 1, 2, 3, 4, 5 \dots \infty \}$
Whole #'s:	are all of the natural numbers and zero. $W = \{ 0, 1, 2, 3, 4, 5, \dots \infty \}$
Integers:	are natural #'s, whole #'s and negative #'s. $I = \{ -\infty, -3, -2, -1, 0, 1, 2, 3, \infty \}$
Rational #'s:	are numbers that can be expressed as the ratio of two integers, where the denominator is not 0. Rational #'s can be expressed in decimal form either repeating or terminating. $\text{Rational} = \{ \frac{8}{4}, \frac{1}{2}, 0.25, 0.33\bar{3}, 2, -1, 0 \}$

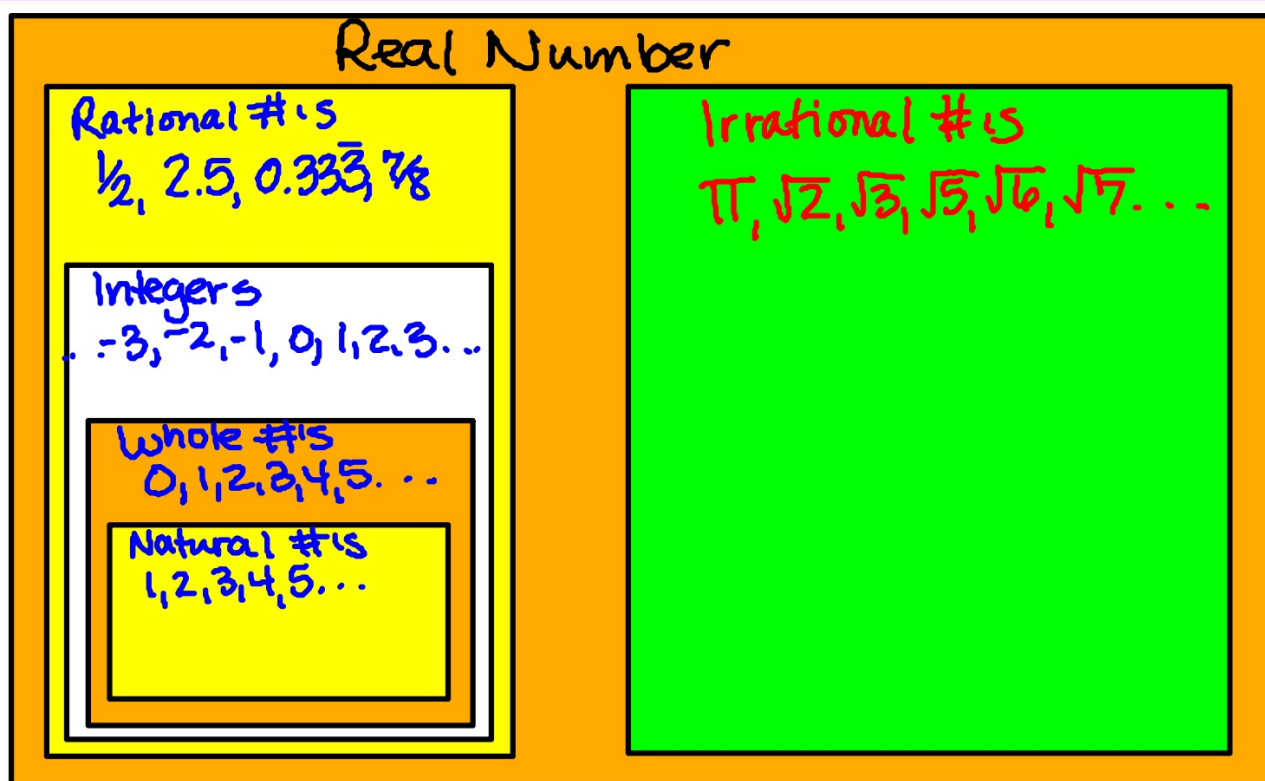
### Content and Language Objective:

Students will explore the different categories used to label numbers and be able to explain the difference between the different categories.

Irrational #'s	are numbers that cannot be expressed by fractions or a whole number. Irrational: $\{ \pi, \sqrt{2}, \sqrt{3}, \sqrt{5}, \sqrt{6}, \sqrt{7} \}$
Real #'s:	can be represented as decimal numbers. Every fraction has a decimal form, so real numbers include rational #'s. Real: $\{ -5, \frac{1}{2}, 0, \sqrt{2}, \pi, .\overline{333} \}$
Approximately Equal	means that the solution is an approximation. Used in a variety of ways, such as simplifying fractions, roots, and other situations. $\approx$

### Content and Language Objective:

Students will explore the different categories used to label numbers and be able to explain the difference between the different categories.



**Content and Language Objective:**

**Students will explore the different categories used to label numbers and be able to explain the difference between the different categories.**

**Practice:**

Classify each number as one or more of the following:  
Natural Number, Whole Number, Integer, or Rational Number

1.)  $\frac{6}{3}$  R, N, W, I

2.)  $-1$  I, R

3.)  $0$  I, W, R

4.)  $-\frac{11}{3}$  R  $-3.\overline{33}$

**Content and Language Objective:**

**Students will explore the different categories used to label numbers and be able to explain the difference between the different categories.**

**Practice:**

**Classify each number as one or more of the following:  
Natural Number, Integer, Rational Number or Irrational Number**

5,    $-1.2$ ,    $\frac{13}{7}$ ,    $-\sqrt{7}$ ,    $-12$ ,    $\sqrt{16}$



**Content and Language Objective:**

**Students will explore the different categories used to label numbers and be able to explain the difference between the different categories.**

**Practice:**

**A student obtains the following test scores: 81, 96, 79, and 82.**

**a. Find the student's average test score.**

**b. Is this average a natural, a rational or a real number?**



**Content and Language Objective:**

**Students will explore the different categories used to label numbers and be able to explain the difference between the different categories.**

--	--