Warm-Up

We will start THIS VIDEO once the bell rings, so please be in your seat ready to go :)

Also, place last night's homework on your desk!

Place any late forms/syllabi into your In-Box

Homework Check

Real Numbers and the Number Line

(continued)

August 30, 2018

Definitions

- Rational Number
  - Any number that you can write in the form a/b where a and b are integers and b cannot equal 0
  - {¾, 0.25, 9, √.25}
- Natural Number
  - {1, 2, 3, 4, 5, 6…}
- Whole Number
  - {0, 1, 2, 3, 4…}
- Integer
  - {… -2, -1, 0, 1, 2, 3…}
- Irrational Number
  - Cannot be represented as the quotient of two integers
- Real Numbers
  - All rational and irrational numbers form the set of Real Numbers

The Real Number System

| Rational Numbers | Irrational Numbers |

Rational Numbers

Irrational Numbers

Integers

Whole Numbers

Natural Numbers
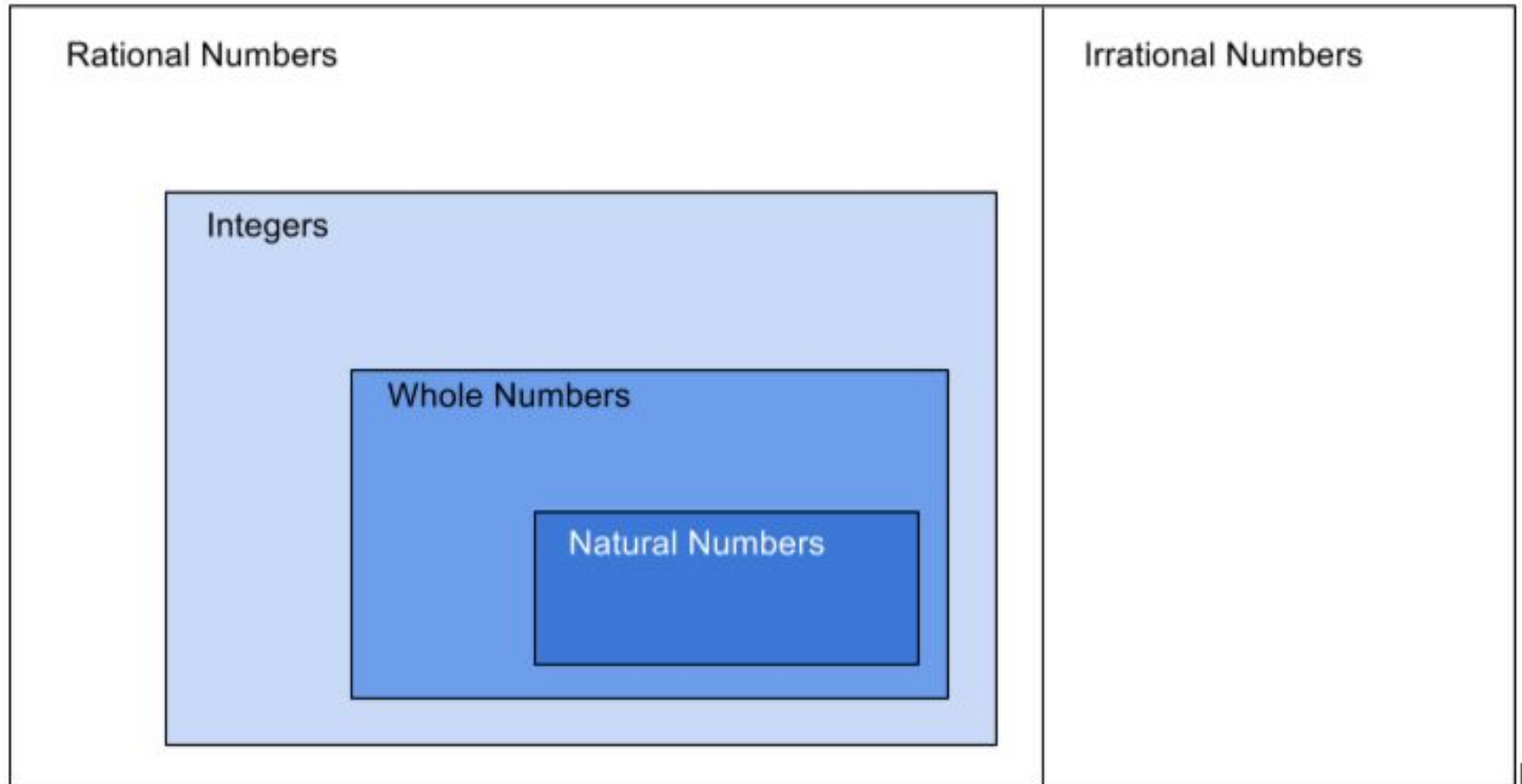
Teacher and Whole Class Example

Plan

How can you compare numbers?
Write the numbers in the same form, such as decimal form.

Problem 4 **Comparing Real Numbers**

What is an inequality that compares the numbers $\sqrt{17}$ and $4\frac{1}{3}$?

Teacher and Whole Class Example

How can you compare numbers? Write the numbers in the same form, such as decimal form.

Problem 4 **Comparing Real Numbers**

What is an inequality that compares the numbers $\sqrt{17}$ and $4\frac{1}{3}$?

$\sqrt{17} = 4.12310\ldots$ Write the square root as a decimal.

$4\frac{1}{3} = 4.\overline{3}$ Write the fraction as a decimal.

$\sqrt{17} < 4\frac{1}{3}$ Compare using an inequality symbol.

Teacher and Whole Class Example

Problem 5   **Graphing and Ordering Real Numbers**

What is the order of $\sqrt{4}$, 0.4, $-\frac{2}{3}$, $\sqrt{2}$, and -1.5 from least to greatest?

Teacher and Whole Class Example

Problem 5 Graphing and Ordering Real Numbers

What is the order of $\sqrt{4}$, 0.4, $-\frac{2}{3}$, $\sqrt{2}$, and -1.5 from least to greatest?

- How can we compare these numbers?
- Could we use a number line to help?

Can we estimate square roots if they are not perfect squares?

√15 is not a perfect square. Can we estimate its value?

What about√29?

√98?

What would make this a lot easier to do???

Wrap-Up

A student says that √7 is a rational number because you can write √7 as

$$\frac{\sqrt{7}}{1}$$

Is the student correct? Explain.

Place your answer into the in-box. (Put your initials on your answer!)

Homework

- Memorize your perfect squares for your quiz tomorrow
  - You should know 1^2 through 25^2 as well as $\sqrt{1}$ through $\sqrt{625}$
  - This will be a timed quiz
  - If you will be absent tomorrow, please sign up to take the quiz with Ms. Barger on Tuesday morning at 7:30

- Textbook page 20-21 #38, 42, 44, 46, 50, 51

Common Mistake on the Perfect Square Quiz...

Which is correct:

1) $\sqrt{16} = 4$
2) $\sqrt{16} = 4^2$