1.1/1.7 Classification of Numbers and Absolute Value

Monday, September 23, 2019 7:46 AM

Warm Up

{1, 2, 3, 4, 5, 11, 12, 13, 14, 15}

If all of the numbers in the following are in the above the answer is "True", if not "False".

{3, 5, 12, 14}

{2, 4, 12, 14}

{1, 3, 5, 14, 15}

{1, 2, 3, 4, 5, 6}

{6, 7, 8, 9, 10}

{2, 3, 4, 5, 6}

Essential Question

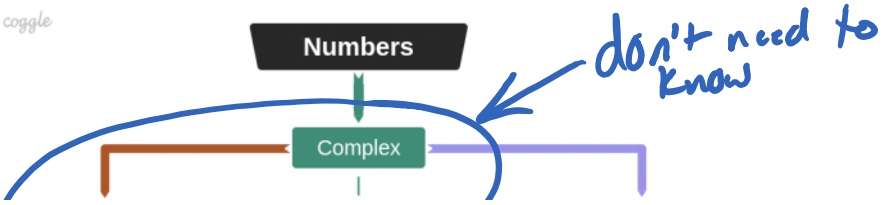
How can we classify numbers? How do we solve absolute value equations?

Needed Vocab:

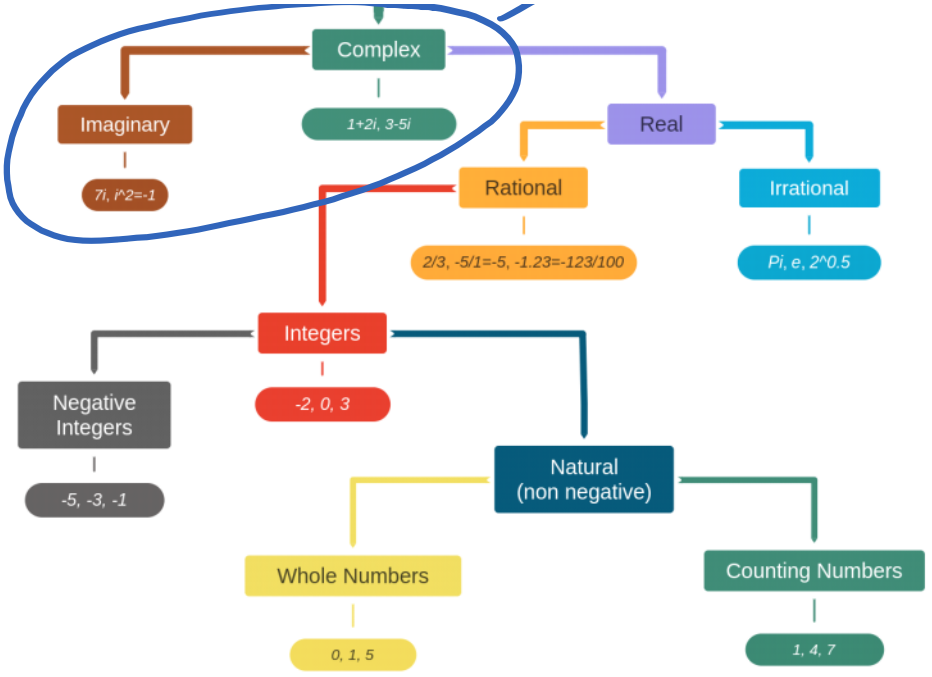
- **Elements of a set**
- **Set**
- **Subset**
- **Real Numbers**
- **Whole Numbers/Integers**
- **Rational Numbers**
- **Irrational Numbers**
- **Natural Numbers**
- **Absolute Value**

Goal: "I can. . .

Classify numbers as well as write and solve absolute value equations."



This is a number tree. The numbers you will need to be able to classify fall under the heading of **REAL Numbers**.



numbers you will need to be able to classify fall under the heading of **REAL Numbers**. Two types of real numbers, **Rational** and **Irrational**. Rational Numbers include **Fractions** and **Integers**. Irrational numbers are numbers that have no end or are not repeating. Integers are numbers that are in their entirety. Integers can be negative, **Negative Integers**, or **Natural Numbers**, Non-negative. **Natural Numbers** are 0 and up.

EXAMPLE 1 Classify the following numbers

-1 $\frac{1}{3}$ $\frac{\pi}{2}$

Classify the following numbers

$\frac{-4}{2}$ $-0.\overline{12}$ $\sqrt{64}$

Example 2

A. What is the value of x in $7 = |x| + 2$?

B. What is the value of x in $|2x - 3| = 1$?

C. What is the value of x in $3|x + 6| + 8 = 5$?

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1. Solve each equation.

a. $6 = |x| - 2$

b. $2|x + 5| = 4$

Solve $|3x + 9| - 10 = -4$.

Solve (a) $|3x - 4| = |x|$ and (b) $|4x - 10| = 2|3x + 1|$.

Solve the equation. Check your solutions.

8. $|x + 8| = |2x + 1|$

9. $3|x - 4| = |2x + 5|$

Homework

Pg. 9
16-21
Pg. 48
10, 15-23 odd, 43
