

Algebra RH

Essential Question: What are the sets of real numbers?

Sets of Numbers

Natural: The set of natural numbers is comprised of the counting numbers

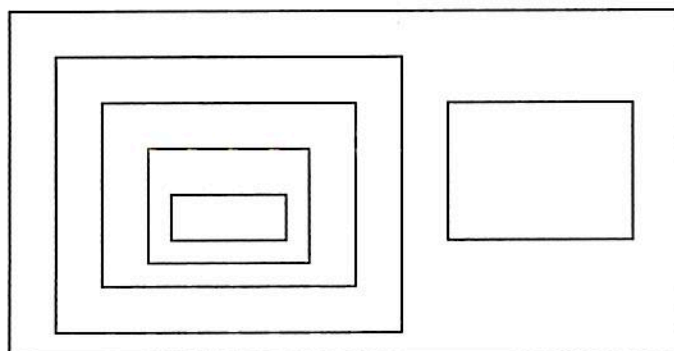
Whole: The set of whole numbers includes the set of counting numbers + zero

Integers: The set of whole numbers and their opposites

Rational: A rational number is a number that can be expressed as a ratio of 2 integers, $\frac{a}{b}$
where a and b both represent integers.

Irrational: Irrational Numbers cannot be expressed as a ratio of 2 integers. These numbers include non-terminating, non-repeating decimals.

Real: The real number system is the combined set of rational and irrational numbers.





Here's a little something extra

Imaginary Number: An *imaginary number* is a mathematical term for a number whose square is a negative real number. Imaginary numbers are represented with the letter i , which stands for the square root of -1 ($\sqrt{-1} = i$). Any imaginary number can be represented by using i . For example, the square root of -4 is $2i$.

Complex Number: A *complex number*, in mathematics, is a number comprising of a real number part and an imaginary number part; it can be written in the form $a + bi$, where a and b are real numbers, and i is the imaginary unit.

Examples:

1. List all the whole numbers less than 10. _____
2. List all natural numbers between 4 and 9. _____
3. List all integers less than or equal to 3. _____
4. List the set of whole numbers less than 0. _____
5. T/F: Between any two whole numbers there is another whole number. _____
6. Is every whole number an integer? _____
7. Is every integer a whole number? _____
8. T/F: Some numbers are both rational and irrational. _____
9. T/F: There is a fraction that will produce the decimal .34334333433334 etc. _____
10. A/S/N: The square root of a natural number is rational. _____
11. A/S/N: A rational number divided by a rational number equals a rational number. _____