

Sets of Numbers

A **set** is a collection of objects called **elements** surrounded by braces (e.g., $\{a, b, c\}$).

Common sets of real numbers:

- *Natural Numbers (or Counting Numbers)* $\{ 1, 2, 3, \dots \}$
- *Whole Numbers* $\{ 0, 1, 2, 3, \dots \}$
- *Integers* $\{ \dots, -3, -2, -1, 0, 1, 2, 3, \dots \}$
- *Rational Numbers*
 - can be expressed as a ratio of two integers $\frac{a}{b}$, where $b \neq 0$.

Examples: _____

- can be expressed as terminating or repeating decimals.

Examples: _____

- *Irrational Numbers*

- cannot be expressed as a ratio of two integers.

Examples: _____

- can be expressed as non-terminating and non-repeating decimals.

Examples: _____

The set of *Real Numbers* consists of all the rational numbers and all the irrational numbers.

Check every set to which each number belongs.

Number	Natural	Whole	Integer	Rational	Irrational	Not a real number
-25						
$\frac{1}{25}$						
$\sqrt{25}$						
$\sqrt{-25}$						
0.25						
0.2525...						
0.12345...						
$\sqrt[3]{25}$						