Math 115E Activity 1

Chapter 1 Section 1
Number Systems and Solution Sets

What are the different collections of numbers what we have?

- **Natural Numbers**: $1, 2, 3, 4, \ldots$ We use the symbol $\mathbb{N}$ to refer to the natural numbers.
- **Integers**: $\ldots, -4, -3, -2, -1, 0, 1, 2, 3, 4, \ldots$ We use the symbol $\mathbb{Z}$ to refer to the integers.
- **Rational Numbers**: A number that can be expressed as a fraction p/q of two integers, where p is the numerator and q is the non-zero denominator.
  We use the symbol Q for the rational numbers.
- **Irrational Numbers**: A number that cannot be expressed as a simple fraction.
  Its decimal representation is non-terminating and non-repeating.
  Examples include π, e, and $\sqrt{2}$.We don't actually have a fancy symbol to describe the irrationals.

Practice Problems

In this section you will give examples of each type of number, without clear repeats

- **5 Natural Numbers**:
- **5 Integers**:
- **5 Rational Numbers**:
- **2 Irrational Numbers**: