

Math 115E Activity 1

Chapter 1 Section 1
Number Systems and Solution Sets

What are the different types of numbers?

- **Natural Numbers:** $1, 2, 3, 4, \dots$. We use the symbol \mathbb{N} to refer to the natural numbers.
- **Integers:** $\dots, -4, -3, -2, -1, 0, 1, 2, 3, 4, \dots$. 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 \mathbb{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 from the examples above

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