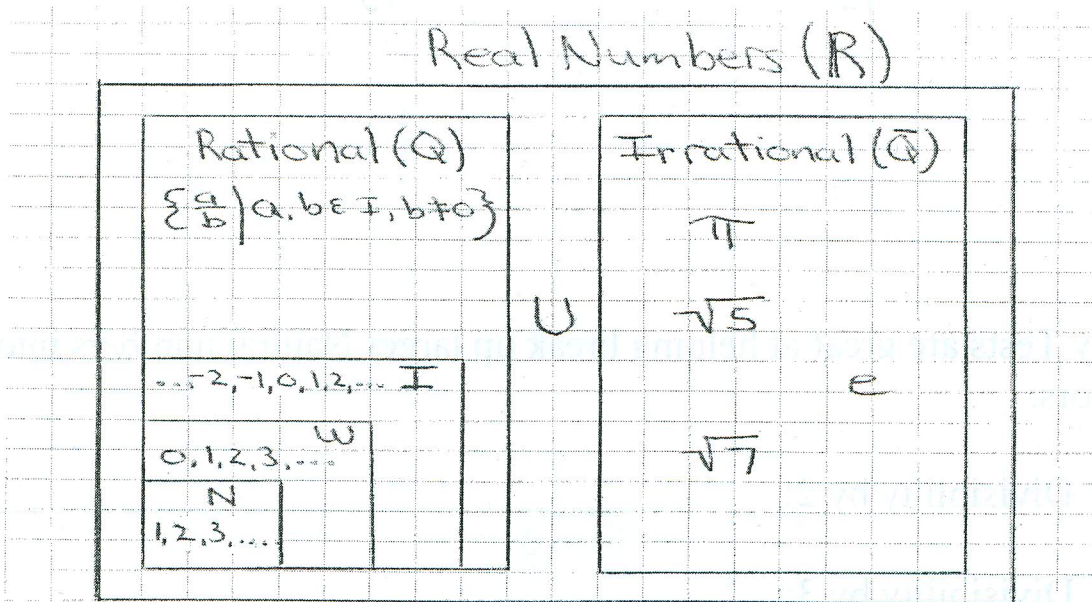


### 3.1 Factors and Multiples of Whole Numbers

#### Where does our number system come from?

The simple answer is from the Hindu-Arabic system (a base 10 place holder system) which has influenced from the fact that we have 10 fingers!

Our Number System has become more clearly defined with history. We now categorize of numbers as follows.



Note: The definition of a Rational Number is:  $Q = \{\frac{a}{b} | a, b \in \mathbb{I}, b \neq 0\}$

Translation: If it can be made into a fraction it is Rational!

Classify each of the following numbers:

- |                    |   |
|--------------------|---|
| 1. '5'             | Natural, Whole, Integer, Rational, Irrational, Real |
| 2. '1.6'           | Natural, Whole, Integer, Rational, Irrational, Real |
| 3. ' $\sqrt{8}$ '  | Natural, Whole, Integer, Rational, Irrational, Real |
| 4. ' $2.\bar{3}$ ' | Natural, Whole, Integer, Rational, Irrational, Real |
| 5. '-4'            | Natural, Whole, Integer, Rational, Irrational, Real |
| 6. '-1.25'         | Natural, Whole, Integer, Rational, Irrational, Real |
| 7. ' $\pi$ '       | Natural, Whole, Integer, Rational, Irrational, Real |

