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Sets of Numbers

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Sets of Numbers

Natural Numbers - counting numbers - notation \rightarrow N
 $N = \{1, 2, 3, 4, 5, \dots\}$

Whole Numbers - natural numbers AND ZERO - notation \rightarrow W
 $W = \{0, 1, 2, 3, 4, 5, \dots\}$

Integers - whole numbers and their opposites - notation \rightarrow Z
 $Z = \{\dots -5, -4, -3, -2, -1, 0, 1, 2, 3, 4, 5, \dots\}$

Rational Numbers - a number that can be written as one integer over another. The denominator cannot be 0. - notation \rightarrow Q
 $Q = \left\{ \frac{a}{b}, a \text{ and } b \text{ are integers and } b \neq 0. \right\}$

Irrational Number - a number that cannot be written as one integer over another. It is a non-repeating, non-terminating decimal. - notation \rightarrow I
 $I = \{x \text{ if } x \text{ is a real number that is not rational}\}$

Examples: π or $\sqrt{17}$

Real Numbers - all rational and irrational numbers - notation \rightarrow R
 $R = \{x \text{ if } x \text{ is a point on the number line}\}$