

Quadratics

Definitions

- Sequence
 - An ordered group of numbers, symbols, or pictures in which each item (called a term) follows another one while obeying a rule.
- Term
 - Each item in a sequence. For a sequence starting with t_1 , the second term would be t_2 , the third term would be t_3 , etc.
- Infinite Sequence
 - A sequence that goes on forever. We can write it as: $\{t_1, t_2, t_3, \dots\}$.
- Finite Sequence
 - A sequence that comes to an end at a certain point. We can write it as: $\{t_1, t_2, \dots, t_n\}$.
- Domain
 - The set of all possible values for the independent variable in any relation, equation or function.
 - Example: $D = \{x \mid x > 0, x \in \mathbb{N}\}$
 - The example is read as: "The domain is x, such that x is greater than zero and x is contained in the set of natural numbers."
- Range
 - The set of all possible values for the dependent variable in any relation, equation or function.
 - Example: $R = \{y \mid y \geq 3, y \in \mathbb{R}\}$
 - The example is read as: "The range is y, such that y is greater than or equal to three and y is contained in the set of real numbers."

Number Sets

- The following is a list of number sets:

Number Set	Symbol	Numbers Contained in the Set
Natural Numbers	\mathbb{N}	$\{1, 2, 3, 4, \dots\}$
Whole Numbers	\mathbb{W}	$\{0, 1, 2, 3, \dots\}$
Integers	\mathbb{Z}	$\{\dots, -2, -1, 0, 1, 2, \dots\}$
Rational Numbers	\mathbb{Q}	$\left\{ \frac{p}{q} \mid p \in \mathbb{Z}, q \in \mathbb{N} \right\}$
Irrational Numbers	\mathbb{Q}'	Examples: Pi, 1.4672, -532.1113
Real Numbers	\mathbb{R}	All Rational and Irrational Numbers