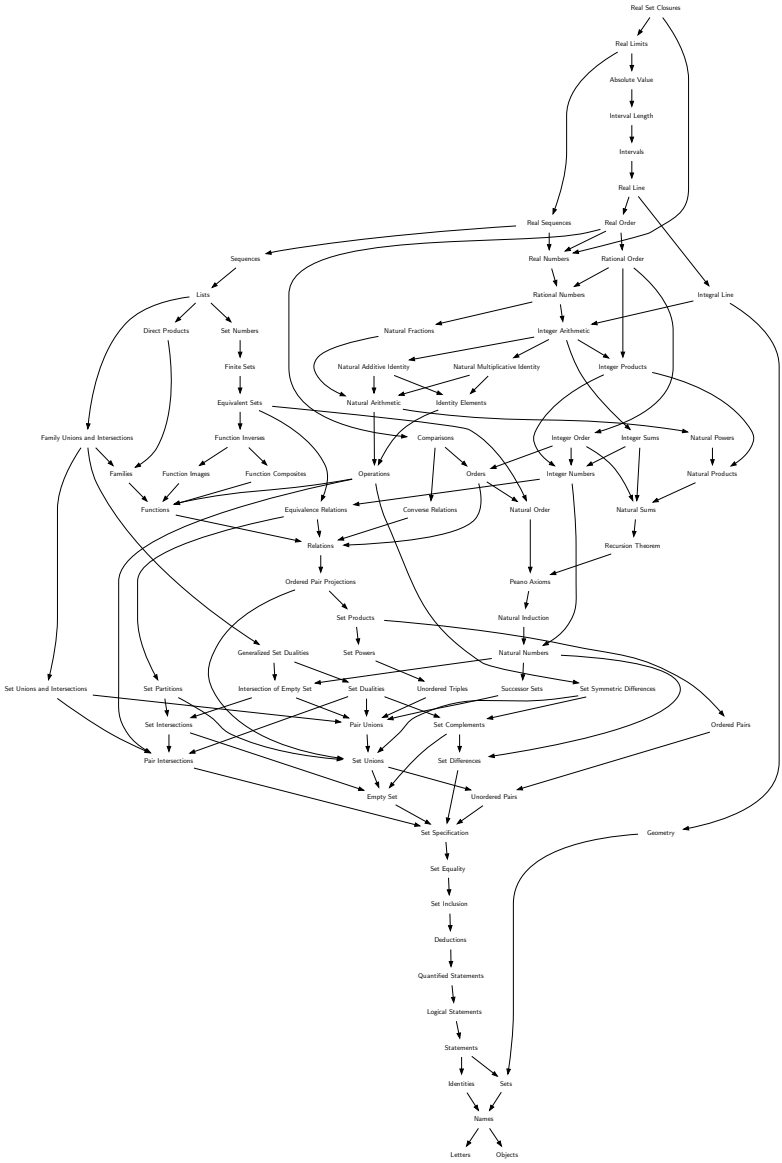
Definition

Suppose $A \subset \mathbf{R}$. A point $x \in \mathbf{R}$ is a *limit point* of A if there exists a sequence $a : \mathbf{N} \to A$ so that $a_n \to x$ In other words, the limit points of A are the points which are the limits of some sequences in A.

It is possible that $x \notin A$ but x is a limit point. The *closure* of A is the set containing A and all limit points of A.

Notation

The closure of $A \subset \mathbf{R}$ is denoted $\bar{A}$. Other notation includes $\mathrm{cl}(A)$.


Real Set Closures
Real Limits
Absolute Value
Interval Length
Intervals
Real Line
Real Sequences
Real Order
Sequences
Real Numbers
Rational Order
Rational Numbers
Integral Line
Lists
Direct Products
Set Numbers
Natural Fractions
Integer Arithmetic
Finite Sets
Natural Additive Identity
Natural Multiplicative Identity
Integer Products
Equivalent Sets
Natural Arithmetic
Identity Elements
Family Unions and Intersections
Function Inverses
Comparisons
Integer Order
Integer Sums
Natural Powers
Families
Function Images
Function Composites
Operations
Orders
Integer Numbers
Natural Products
Functions
Equivalence Relations
Converse Relations
Natural Order
Natural Sums
Relations
Recursion Theorem
Ordered Pair Projections
Peano Axioms
Set Products
Natural Induction
Generalized Set Dualities
Set Powers
Natural Numbers
Set Unions and Intersections
Set Partitions
Intersection of Empty Set
Set Dualities
Unordered Triples
Successor Sets
Set Symmetric Differences
Set Intersections
Pair Unions
Set Complements
Ordered Pairs
Pair Intersections
Set Unions
Set Differences
Empty Set
Unordered Pairs
Set Specification
Geometry
Set Equality
Set Inclusion
Deductions
Quantified Statements
Logical Statements
Statements
Identities
Sets
Names
Letters
Objects