Why

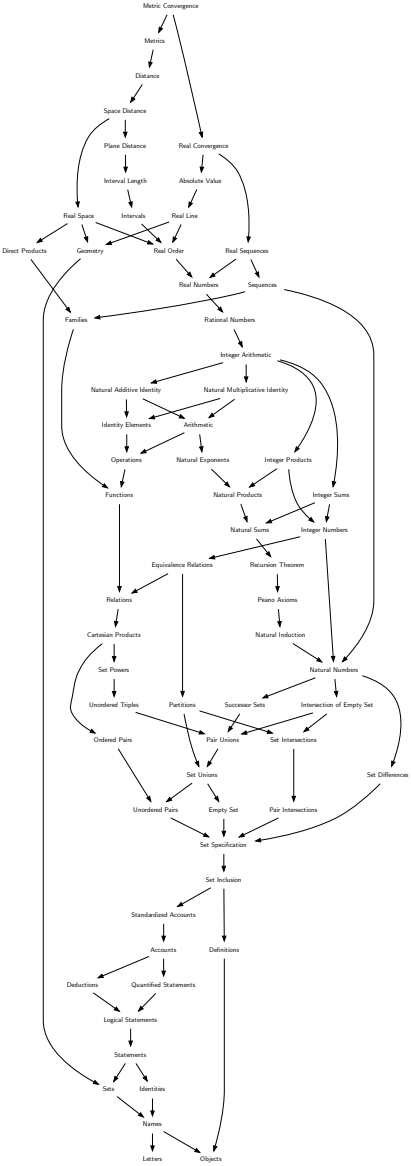
Once we have a notion of distance, we can define a more general notion of convergence.

Definition

A sequence of elements of a metric space *converges* to an fixed element of the space if the sequence of distances between the elements of the fixed element converges to zero.

Notation

Let (A, d) be a metric space. Let $(a_n)_n$ be a sequence in A Then $\{a\}$ converges to a_0 if $d(a_n, a) \to 0$.


Metric Convergence
Metrics
Distance
Space Distance
Plane Distance
Real Convergence
Interval Length
Absolute Value
Real Space
Intervals
Real Line
Direct Products
Geometry
Real Order
Real Sequences
Real Numbers
Sequences
Families
Rational Numbers
Integer Arithmetic
Natural Additive Identity
Natural Multiplicative Identity
Identity Elements
Arithmetic
Operations
Natural Exponents
Integer Products
Functions
Natural Products
Integer Sums
Natural Sums
Integer Numbers
Equivalence Relations
Recursion Theorem
Relations
Peano Axioms
Cartesian Products
Natural Induction
Set Powers
Natural Numbers
Unordered Triples
Partitions
Successor Sets
Intersection of Empty Set
Ordered Pairs
Pair Unions
Set Intersections
Set Unions
Set Differences
Unordered Pairs
Empty Set
Pair Intersections
Set Specification
Set Inclusion
Standardized Accounts
Accounts
Definitions
Deductions
Quantified Statements
Logical Statements
Statements
Sets
Identities
Names
Letters
Objects