Why

We want our spaces to be analytically complete.

Definition

Our model is convergence for the real numbers. A metric space is *complete* if every egoprox sequence converges.

Metric Completeness

Egoproz Sequences

Metrics

Distance

Absolute Value Space Distance

Plane Distance

Interval Length

Intervals

Real Line Real Space Real Plane

Integral Line Real Order

Geometry Real Numbers Sequences

Rational Numbers

Integer Arithmetic Set Numbers Direct Products

Natural Additive Identity Natural Multiplicative Identity Finite Sets

Arithmetic Identity Elements

Integer Products Natural Exponents Operations Equivalent Sets

Integer Sums Natural Products Function Inverses Family Unions and Intersections

Integer Numbers Natural Sums Function Composites Function Images Families

Recursion Theorem Natural Order Equivalence Relations Functions

Peano Axioms Relations

Natural Induction Cartesian Products

Natural Numbers Set Powers Generalized Set Dualities

Successor Sets Unordered Triples Set Dualities Intersection of Empty Set Partitions Set Unions and Intersections

Ordered Pairs Set Complements Pair Unions Set Intersections

Set Differences Set Unions Pair Intersections

Unordered Pairs Empty Set

Set Specification

Set Inclusion

Standardized Accounts

Accounts

Deductions

Quantified Statements

Logical Statements

Statements

Sets Identities

Names

Letters Objects