Why

We want our spaces to be analytically complete.[1]

Definition

Our model for completeness is the real numbers, which are (by definition) complete. A metric space is *complete* if every egoprox sequence converges.

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[1]Future editions will modify.

Complete Metric Spaces

Egyprox Sequences

Metrics

Distance — Real Egyprox Sequences

Space Distance — Real Limits

Plane Distance — Absolute Value

Interval Length

Real Space — Intervals

Real Plane — Real Line

Geometry — Real Order — Integral Line — Real Sequences

Rational Order — Real Numbers

Rational Numbers — Sequences

Lists — Integer Arithmetic

Set Numbers — Integer Products — Natural Multiplicative Identity — Natural Additive Identity

Finite Sets — Arithmetic — Identity Elements

Equivalent Sets — Direct Products — Natural Powers

Comparisons — Function Inverses — Family Unions and Intersections — Integer Order — Integer Sums — Natural Products

Orders — Function Composites — Function Images — Families — Integer Numbers — Natural Sums — Operations

Converse Relations — Natural Order — Functions — Equivalence Relations — Recursion Theorem

Relations — Peano Axioms

Set Products — Natural Induction

Set Powers — Generalized Set Dualities — Natural Numbers

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

Ordered Pairs — Pair Unions — Set Intersections — Set Complements

Set Unions — Pair Intersections — Set Differences

Unordered Pairs — Empty Set

Set Specification

Set Equality

Set Inclusion

Standardized Accounts

Accounts

Deductions

Quantified Statements

Logical Statements

Statements

Sets — Identities

Names

Letters — Objects