Why

Definition

Consider a metric space. A subset of the base set is *dense* in the base set if every element of the base set is the limit of elements in the subset.

Notation

Let (A, d) be a metric space. Let $B \subset A$. Then B is dense in A if for each $a \in A$ there exists $(b_n)_n$ in B so that $b_n \to a$.

Metric Dense

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