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 $b_n \to a$.

Dense Sets

Metric Limits

Metrics

Distance

Real Limits

Space Distance

Absolute Value

Plane Distance

Interval Length

Real Space

Intervals

Real Line

Real Plane

Real Sequences

Integral Line

Real Order

Geometry

Real Numbers

Rational Order

Rational Numbers

Sequences

Lists

Integer Arithmetic

Integer Products

Natural Multiplicative Identity

Natural Additive Identity

Set Numbers

Arithmetic

Identity Elements

Finite Sets

Natural Powers

Equivalent Sets

Direct Products

Integer Sums

Natural Products

Integer Order

Comparisons

Function Inverses

Family Unions and Intersections

Natural Sums

Integer Numbers

Orders

Operations

Function Image

Function Composites

Families

Recursion Theorem

Equivalences Relations

Natural Order

Converse Relations

Functions

Peano Axioms

Relations

Natural Induction

Set Products

Natural Numbers

Set Powers

Generalized Set Dualities

Set Symmetric Differences

Partitions

Intersection of Empty Set

Successor Sets

Unordered Triples

Set Dualities

Set Unions and Intersections

Set Complements

Set Intersections

Pair Unions

Ordered Pair

Set Difference

Set Unions

Pair Intersections

Empty Set

Unordered Pairs

Set Specification

Set Inclusion

Standardized Accounts

Accounts

Deductions

Quantified Statements

Logical Statements

Statements

Identities

Sets

Names

Letters

Objects