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

Real Convergence

Distance

Real Sequences

Absolute Value

Length Common Notions

Real Numbers

Sequences

Length

Natural Differences

Rational Numbers

Function Composites

Direct Products

Integer Numbers

Natural Families

Natural Order

Zero

Families

Natural Sums

Equation Solutions

Functions

Natural Numbers

Relations

Set Intersections

Power Set

Ordered Pairs

Set Unions

Unordered Pairs

Empty Set

Equations

Set Specification

Set Inclusion

Set Equality

Sentences

Identity

Sets

Objects