Why

We talk about sequences in a metric space which are "bunching up."

Definition

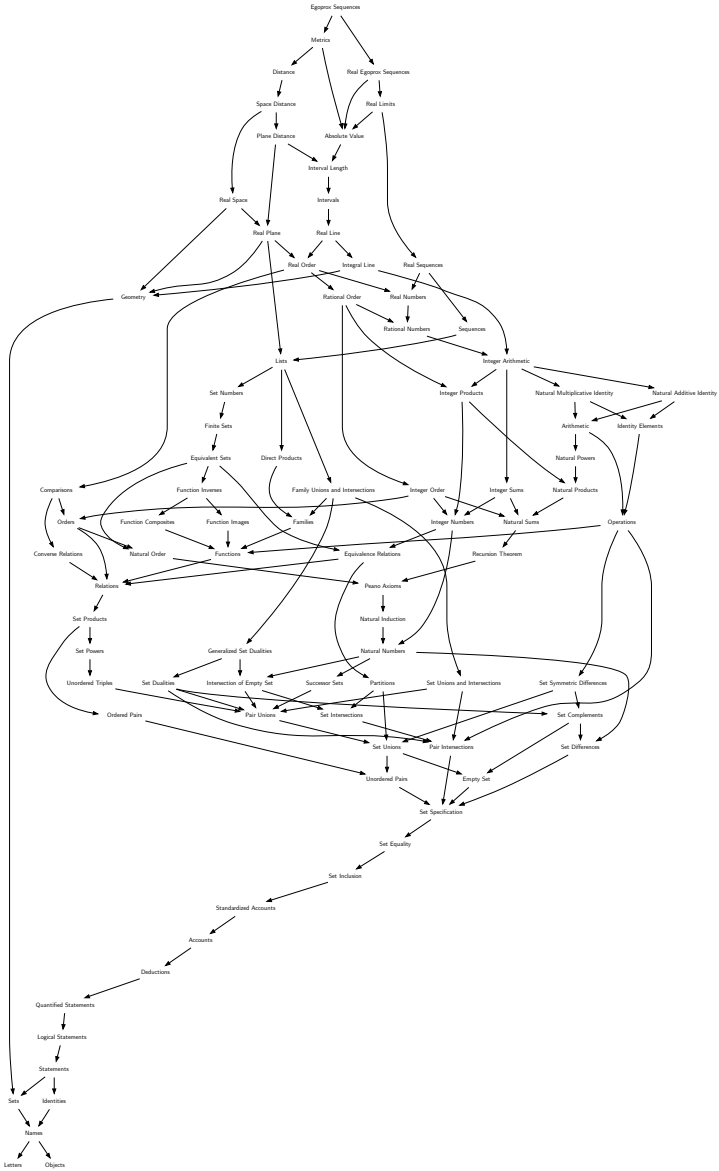
A sequence in a metric space is *egoprox* (or *Cauchy*) if for every positive real number, there exists a final part of the sequence so that any two terms are less than the positive number apart.[1]

Notation

Let (X, d) be a metric space. Then $(x_n)_{n \in \mathbf{N}}$ a sequence in X is egoprox if, for every $\varepsilon > 0$, there exists $N \in \mathbf{N}$ so that, for all $m, n \geq N$

$$d(x_n, x_m) < \varepsilon.$$

[1] The term Cauchy is universal, but in accordance with the Bourbaki project's guidelines on naming, we will tend to use the term egoprox.


Egoprox Sequences
Metrics
Distance
Real Egoprox Sequences
Space Distance
Real Limits
Plane Distance
Absolute Value
Interval Length
Real Space
Intervals
Real Plane
Real Line
Real Order
Integral Line
Real Sequences
Geometry
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