Definition

A *base* $\mathcal{B}$ for a topology $\mathcal{T}$ on a set X is a subset of $\mathcal{T}$ such that every open set $U \in \mathcal{T}$ is a union of a family of sets in $\mathcal{B}$.

Topology Bases

Topologies

Metrics

Distance

Absolute Value

Space Distance

Plane Distance

Interval Length

Real Space

Intervals

Real Line

Real Plane

Real Order

Integral Line

Real Numbers

Geometry

Rational Order

Rational Numbers

Lists

Natural Fractions

Integer Arithmetic

Set Numbers

Direct Products

Integer Products

Natural Multiplicative Identity

Natural Additive Identity

Finite Sets

Natural Arithmetic

Identity Elements

Equivalent Sets

Integer Order

Integer Sums

Natural Powers

Comparisons

Function Inverses

Family Unions and Intersections

Integer Numbers

Natural Products

Orders

Operations

Function Composites

Function Images

Families

Natural Sums

Equivalence Relations

Natural Order

Converse Relations

Functions

Recursion Theorem

Relations

Peano Axioms

Ordered Pair Projections

Natural Induction

Set Products

Natural Numbers

Generalized Set Dualities

Set Powers

Set Symmetric Differences

Partitions

Successor Sets

Intersection of Empty Set

Set Dualities

Unordered Triples

Set Unions and Intersections

Set Complements

Set Intersections

Pair Unions

Ordered Pairs

Set Differences

Set Unions

Pair Intersections

Empty Set

Unordered Pairs

Set Specification

Set Equality

Set Inclusion

Deductions

Quantified Statements

Logical Statements

Statements

Identities

Sets

Names

Letters

Objects