Definition

Suppose $\mathcal{G} = (G, \circ)$ is a group. A *topological group* is a tuple $(\mathcal{G}, \mathcal{T})$ where $(G, \mathcal{T})$ is a topological space and the group operations are continuous.

Topological Groups

Topologies

Metrics

Distance

Space Distance

Absolute Value

Plane Distance

Interval Length

Real Space

Intervals

Real Plane

Real Line

Real Order

Integral Line

Geometry

Groups

Rational Order

Real Numbers

Lists

Rings

Rational Numbers

Direct Products

Set Numbers

Integer Arithmetic

Finite Sets

Natural Additive Identity

Natural Multiplicative Identity

Integer Products

Equivalent Sets

Identity Elements

Arithmetic

Family Unions and Intersections

Comparisons

Function Inverses

Integer Order

Integer Sums

Natural Powers

Families

Function Images

Function Composites

Operations

Orders

Integer Numbers

Natural Products

Converse Relations

Functions

Equivalence Relations

Natural Order

Natural Sums

Relations

Recursion Theorem

Ordered Pair Projections

Peano Axioms

Set Products

Natural Induction

Generalized Set Dualities

Set Powers

Natural Numbers

Set Unions and Intersections

Set Dualities

Unordered Triples

Intersection of Empty Set

Successor Sets

Partitions

Set Symmetric Differences

Ordered Pairs

Pair Unions

Set Intersections

Set Complements

Pair Intersections

Set Unions

Set Differences

Unordered Pairs

Empty Set

Set Specification

Set Equality

Set Inclusion

Deductions

Quantified Statements

Logical Statements

Statements

Sets

Identities

Names

Letters

Objects