Definition

Given a subset A of a topological space, a point x is said to be *in the boundary of* A if x is in iboth the closure of A and the closure of the complement of A.

Notation

The boundary of a set A in a topological space is denoted by $\mathrm{Bdry}(A)$. Other notation includes ∂A.

Topological Boundaries

Topological Closures

Topological Neighborhoods

Topologies

Metrics

Distance — Real Set Closures

Space Distance — Real Limits

Plane Distance — Absolute Value

Interval Length

Real Space — Intervals

Real Plane — Real Line

Integral Line — Real Order — Real Sequences

Geometry — Sequences — Rational Order — Real Numbers

Lists — Rational Numbers

Set Numbers — Direct Products — Integer Arithmetic — Natural Fractions

Finite Sets — Integer Products — Natural Additive Identity — Natural Multiplicative Identity

Equivalent Sets — Identity Elements — Natural Arithmetic

Comparisons — Function Inverses — Family Unions and Intersections — Integer Order — Natural Powers — Integer Sums

Orders — Function Composites — Function Images — Families — Integer Numbers — Operations — Natural Products

Converse Relations — Natural Order — Functions — Equivalence Relations — Natural Sums

Relations — Recursion Theorem

Ordered Pair Projections — Peano Axioms

Set Products — Natural Induction

Set Powers — Generalized Set Dualities — Natural Numbers

Ordered Pairs — Set Partitions — Unordered Triples — Intersection of Empty Set — Set Unions and Intersections — Successor Sets — Set Dualities — Set Symmetric Differences

Set Intersections — Pair Unions — Set Complements

Set Unions — Pair Intersections — Set Differences

Unordered Pairs — Empty Set

Set Specification

Set Equality

Set Inclusion

Deductions

Quantified Statements

Logical Statements

Statements

Sets — Identities

Names

Letters — Objects