Why

We often take the topology of a topological space as the generating set for the sigma algebra.

Definition

Given a topological space, the *topological sigma algebra* is the sigma algebra generated by the topology.

Notation

Let $(A, \mathcal{T})$ be a topological space. We denote the topological sigma algebra by $\sigma(\mathcal{T})$.

Topological Sigma Algebra

Topological Spaces

Cardinality

Metrics

Distance

Space Distance

Absolute Value

Plane Distance

Interval Length

Intervals

Real Space

Real Plane

Real Line

Real Order

Integral Line

Geometry

Real Numbers

Rational Numbers

Sequences

Integer Arithmetic

Set Numbers

Direct Products

Natural Multiplicative Identity

Natural Additive Identity

Finite Sets

Arithmetic

Identity Elements

Set Operations

Equivalent Sets

Integer Products

Natural Powers

Operations

Family Unions and Intersections

Function Inverses

Integer Sums

Natural Products

Families

Function Images

Function Composites

Integer Numbers

Natural Sums

Equivalence Relations

Natural Order

Functions

Recursion Theorem

Relations

Peano Axioms

Cartesian Products

Natural Induction

Generalized Set Dualities

Set Powers

Natural Numbers

Set Unions and Intersections

Partitions

Intersection of Empty Set

Set Dualities

Unordered Triples

Successor Sets

Set Symmetric Differences

Set Intersections

Pair Unions

Set Complements

Ordered Pairs

Pair Intersections

Set Unions

Set Differences

Empty Set

Unordered Pairs

Set Specification

Set Inclusion

Standardized Accounts

Accounts

Deductions

Quantified Statements

Logical Statements

Statements

Sets

Identities

Names

Letters

Objects