Why

Let us consider examples of signed measures.

Examples

Consider an integrable function defined on some measurable space. The extended-real-valued funciton which assigns to each distinguished set the value of the integrating the function over that set is a signed measure.

Example 1. *Suppose $(X, \mathcal{A}, \mu)$ a measure space and $f : X \to \mathbf{R}$ is an integrable function. Define $\nu : \mathcal{A} \to R$ by*

$$\nu(A) = \int_A f d\mu.$$

Then ν is a signed measure.

Signed Measure Examples

Signed Measures

Vectors

Real Vectors — Measure

N-Dimensional Space — Plane Vector Sums and Differences — Space Vectors — Length Measure — Sigma Algebras

Distance — Plane Vectors — Real Series — Extended Real Numbers

Space Distance — Real Limits

Plane Distance — Absolute Value

Interval Length

Real Space — Intervals

Real Plane — Real Line

Geometry — Integral Line — Real Order — Real Sequences

Rational Order — Real Numbers — Fields — Sequences — Subset Algebras — Cardinality

Rational Numbers — Rings — 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 — Operations — Function Inverses — Family Unions and Intersections

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

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

Recursion Theorem — Relations

Peano Axioms — Ordered Pair Projections — Set Products — Subset Systems

Natural Induction — Generalized Set Dualities — Set Powers — Ordered Pairs

Natural Numbers

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

Set Complements — Set Intersections — Pair Unions

Set Differences — Pair Intersections

Empty Set — Unordered Pairs

Set Specification

Set Equality

Set Inclusion

Deductions

Quantified Statements

Logical Statements

Statements

Sets — Identities

Names

Letters — Objects