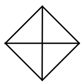


Why

Let us consider examples of signed measures. TODO

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. See Example 1.

Consider

Example 1. *Let $(X, \mathcal{A}, \mu)$ a measure space. Let R denote the set of real numbers. Let $f : X \to R$ an integrable function. Define $\nu : \mathcal{A} \to R$ by*

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

Then ν is a signed measure.

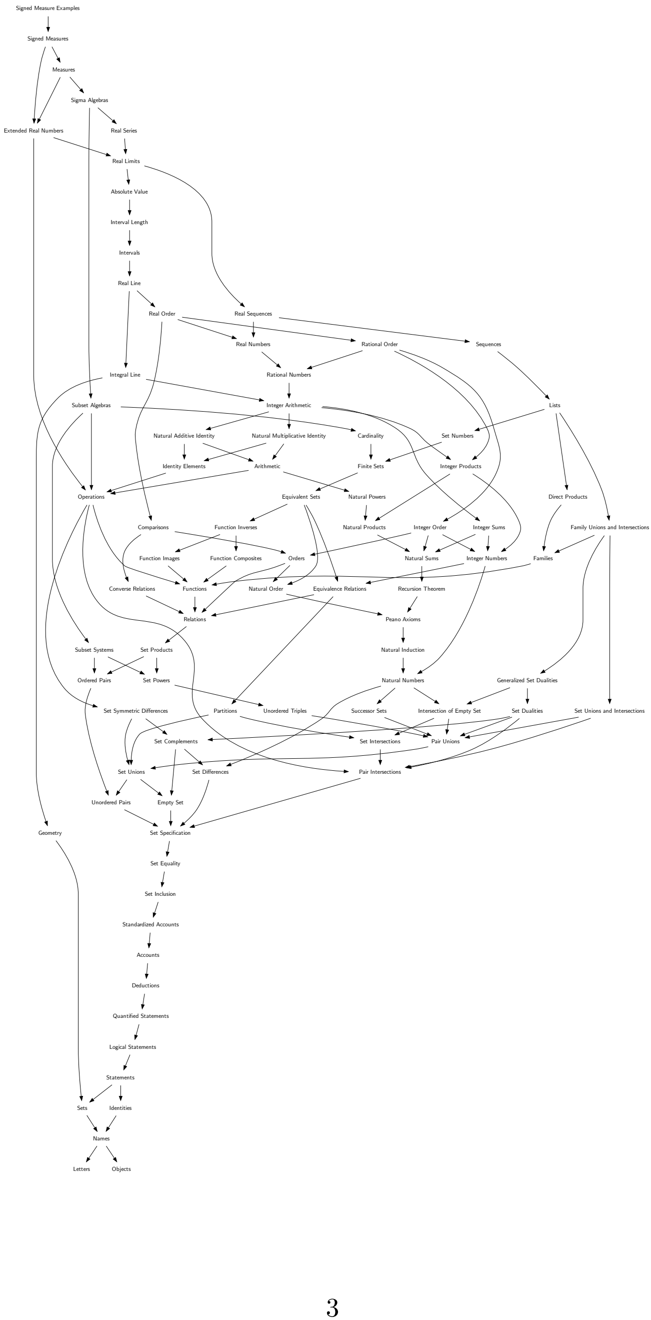
Proof. First,

$$\nu(\varnothing) = \int f\chi_{\varnothing} d\mu = \int 0 d\mu = 0.$$

Next, let $(A_n)_n$ disjoint. Notice that,

$$\chi_{\cup_{i=1}^{n} A_k} = \sum_{i=k}^{n} \chi_{A_k}$$

so for all n, □


Signed Measure Examples
Signed Measures
Measures
Sigma Algebras
Extended Real Numbers
Real Series
Real Limits
Absolute Value
Interval Length
Intervals
Real Line
Real Order
Real Sequences
Real Numbers
Rational Order
Sequences
Integral Line
Rational Numbers
Subset Algebras
Integer Arithmetic
Lists
Natural Additive Identity
Natural Multiplicative Identity
Cardinality
Set Numbers
Identity Elements
Arithmetic
Finite Sets
Integer Products
Operations
Equivalent Sets
Natural Powers
Direct Products
Comparisons
Function Inverses
Natural Products
Integer Order
Integer Sums
Family Unions and Intersections
Function Images
Function Composites
Orders
Natural Sums
Integer Numbers
Families
Converse Relations
Functions
Natural Order
Equivalence Relations
Recursion Theorem
Relations
Peano Axioms
Subset Systems
Set Products
Natural Induction
Ordered Pairs
Set Powers
Natural Numbers
Generalized Set Dualities
Set Symmetric Differences
Partitions
Unordered Triples
Successor Sets
Intersection of Empty Set
Set Dualities
Set Unions and Intersections
Set Complements
Set Intersections
Pair Unions
Set Unions
Set Differences
Pair Intersections
Unordered Pairs
Empty Set
Geometry
Set Specification
Set Equality
Set Inclusion
Standardized Accounts
Accounts
Deductions
Quantified Statements
Logical Statements
Statements
Sets
Identities
Names
Letters
Objects