Why

We want a norm on the space of measures.

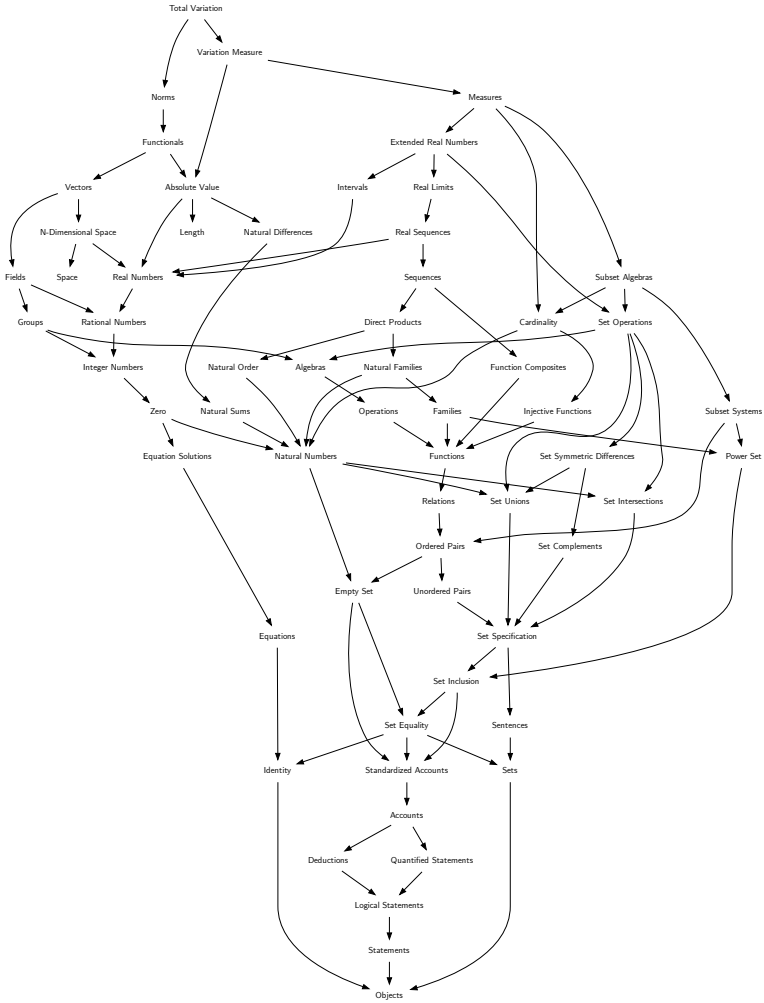
Definition

The *total variation* of finite measure is the variation measure of the base set. We show below that the total variation is a norm on the vector space of finite measures.

Notation

Let R denote the set of real numbers. Let $(X, \mathcal{A})$ be a measurable sapce and $\mu : X \to R$ be a finite signed measure. We denote the total variation by $|\mu|$.

Let $|\mu|$ be the variation of μ. Then, $|\mu| = |\mu|(X)$.


Total Variation
Variation Measure
Norms
Measures
Functionals
Extended Real Numbers
Vectors
Absolute Value
Intervals
Real Limits
N-Dimensional Space
Length
Natural Differences
Real Sequences
Fields
Space
Real Numbers
Sequences
Subset Algebras
Groups
Rational Numbers
Direct Products
Cardinality
Set Operations
Integer Numbers
Natural Order
Algebras
Natural Families
Function Composites
Zero
Natural Sums
Operations
Families
Injective Functions
Subset Systems
Equation Solutions
Natural Numbers
Functions
Set Symmetric Differences
Power Set
Relations
Set Unions
Set Intersections
Ordered Pairs
Set Complements
Empty Set
Unordered Pairs
Equations
Set Specification
Set Inclusion
Set Equality
Sentences
Identity
Standardized Accounts
Sets
Accounts
Deductions
Quantified Statements
Logical Statements
Statements
Objects