Why

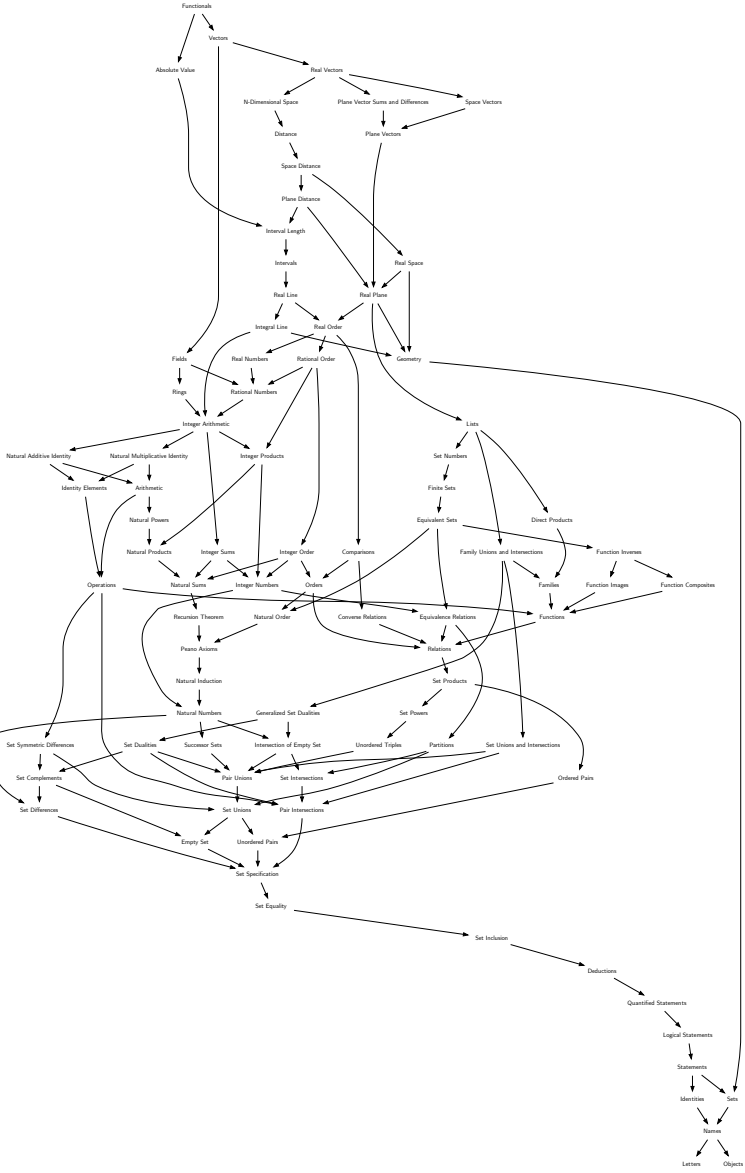
We name maps from vectors to scalars.

Definition

A *functional* is a function from vectors to a field. It is natural, and common, for the field of scalars to be the base field.

A real-valued functional is *non-negative* if its range is a subset of the non-negative real numbers. A real-valued functional if *definite* if the only it maps to zero is the zero element of the vector space.

A real-valued functional on a real or complex vector space is *absolutely homogeneous* if the result of a scaled vector is the same as the result of the vector scaled by the absolute value of the scalar.


Functionals
Vectors
Absolute Value
Real Vectors
N-Dimensional Space
Plane Vector Sums and Differences
Space Vectors
Distance
Plane Vectors
Space Distance
Plane Distance
Interval Length
Intervals
Real Space
Real Line
Real Plane
Integral Line
Real Order
Fields
Real Numbers
Rational Order
Geometry
Rings
Rational Numbers
Integer Arithmetic
Lists
Natural Additive Identity
Natural Multiplicative Identity
Integer Products
Set Numbers
Identity Elements
Arithmetic
Finite Sets
Natural Powers
Equivalent Sets
Direct Products
Natural Products
Integer Sums
Integer Order
Comparisons
Family Unions and Intersections
Function Inverses
Operations
Natural Sums
Integer Numbers
Orders
Families
Function Images
Function Composites
Functions
Recursion Theorem
Natural Order
Converse Relations
Equivalence Relations
Peano Axioms
Relations
Natural Induction
Set Products
Natural Numbers
Generalized Set Dualities
Set Powers
Set Symmetric Differences
Set Dualities
Successor Sets
Intersection of Empty Set
Unordered Triples
Partitions
Set Unions and Intersections
Set Complements
Pair Unions
Set Intersections
Ordered Pairs
Set Differences
Set Unions
Pair Intersections
Empty Set
Unordered Pairs
Set Specification
Set Equality
Set Inclusion
Deductions
Quantified Statements
Logical Statements
Statements
Identities
Sets
Names
Letters
Objects