Why

We can characterize the continuous linear functionals.

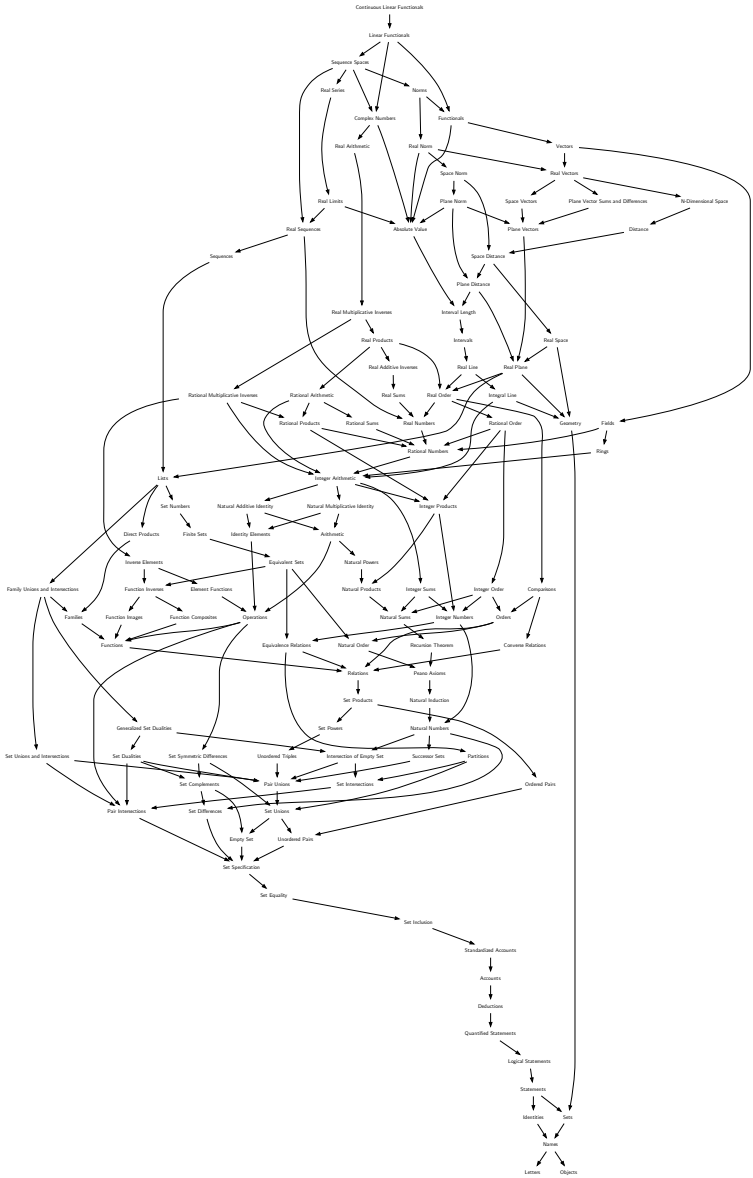
Main result

Proposition 1. *Let F be a linear functional on a normed space $(V, \|\cdot\|)$. The following are equivalent:*

1. *F is continuous;*
2. *F is continuous at 0;*
3. $\sup_{\|x\|\leq 1}\{|F(x)|\} < \infty$.[1]

For this reason we often call continuous linear functionals *the* bounded linear functionals *or call them* continuous bounded linear functionals.

[1] Future editions will include an account, and that will fill out this sheet.


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