Why

We can characterize the continuous linear functionals.

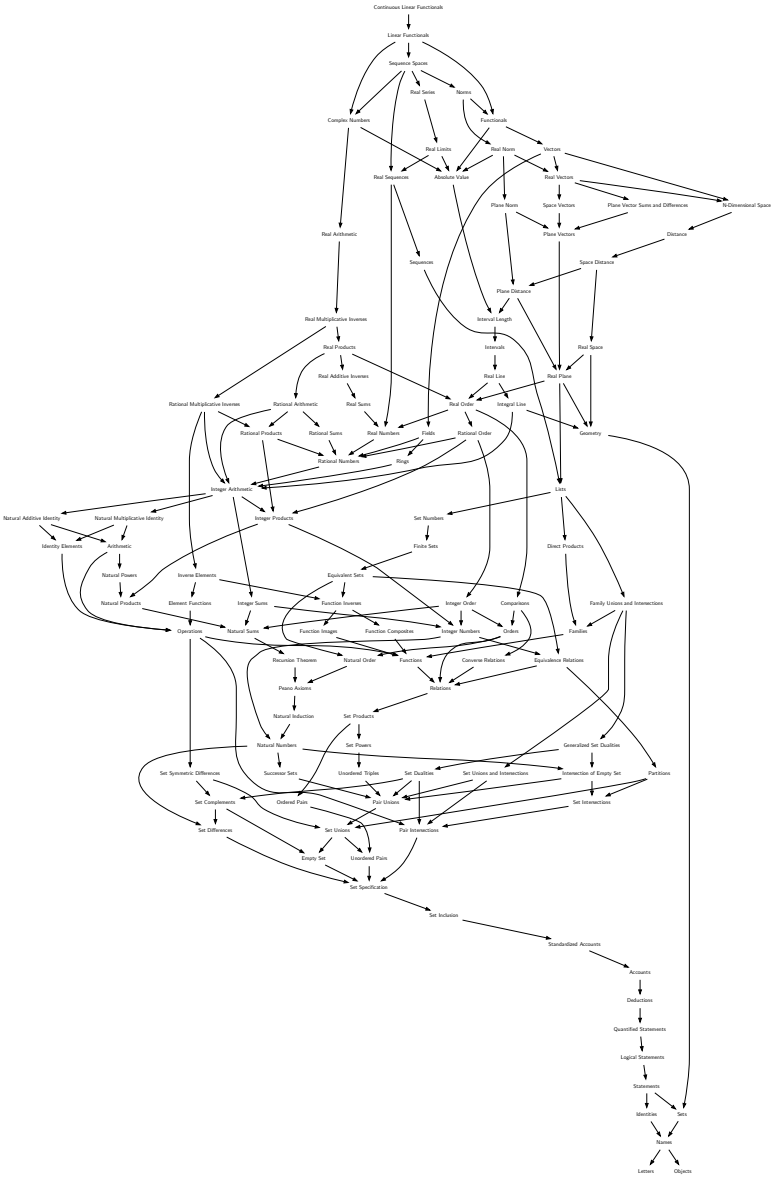
Main result

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