Why

We can characterize the continuous linear functionals.

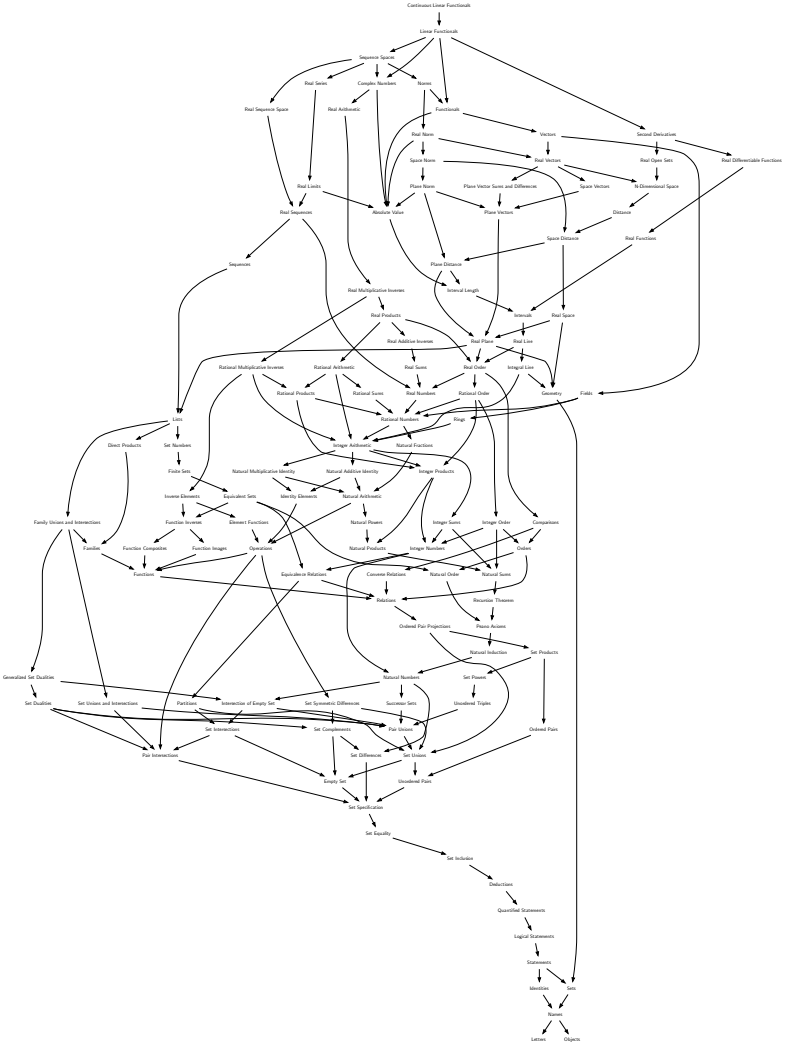
Main result

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
Complex Numbers
Norms
Real Sequence Space
Real Arithmetic
Functionals
Vectors
Second Derivatives
Real Norm
Real Vector
Real Open Sets
Real Differentiable Functions
Space Norm
Real Limits
Plane Norm
Plane Vector Sums and Differences
Space Vectors
N-Dimensional Space
Real Sequences
Absolute Value
Plane Vectors
Distance
Space Distance
Real Functions
Sequences
Plane Distance
Interval Length
Real Multiplicative Inverses
Intervals
Real Space
Real Products
Real Additive Inverses
Real Plane
Real Line
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
Natural Fractions
Direct Products
Set Numbers
Integer Products
Finite Sets
Natural Multiplicative Identity
Natural Additive Identity
Inverse Elements
Equivalent Sets
Identity Elements
Natural Arithmetic
Family Unions and Intersections
Function Inverse
Element Functions
Natural Powers
Integer Sums
Integer Order
Comparisons
Families
Function Composites
Function Images
Operations
Natural Products
Integer Numbers
Orders
Functions
Equivalence Relations
Common Relations
Natural Order
Natural Sums
Induction
Recursion Theorem
Ordered Pair Projections
Peano Axioms
Natural Induction
Set Products
Generalized Set Dualities
Natural Numbers
Set Powers
Set Dualities
Set Unions and Intersections
Partitions
Intersection of Empty Set
Set Symmetric Differences
Successor Sets
Unordered Triples
Set Intersections
Set Complements
Pair Unions
Ordered Pairs
Pair Intersections
Set Differences
Set Unions
Empty Set
Unordered Pairs
Set Specification
Set Equality
Set Inclusion
Deduction
Quantified Statements
Logical Statements
Statements
Identities
Sets
Names
Letters
Objects