Why

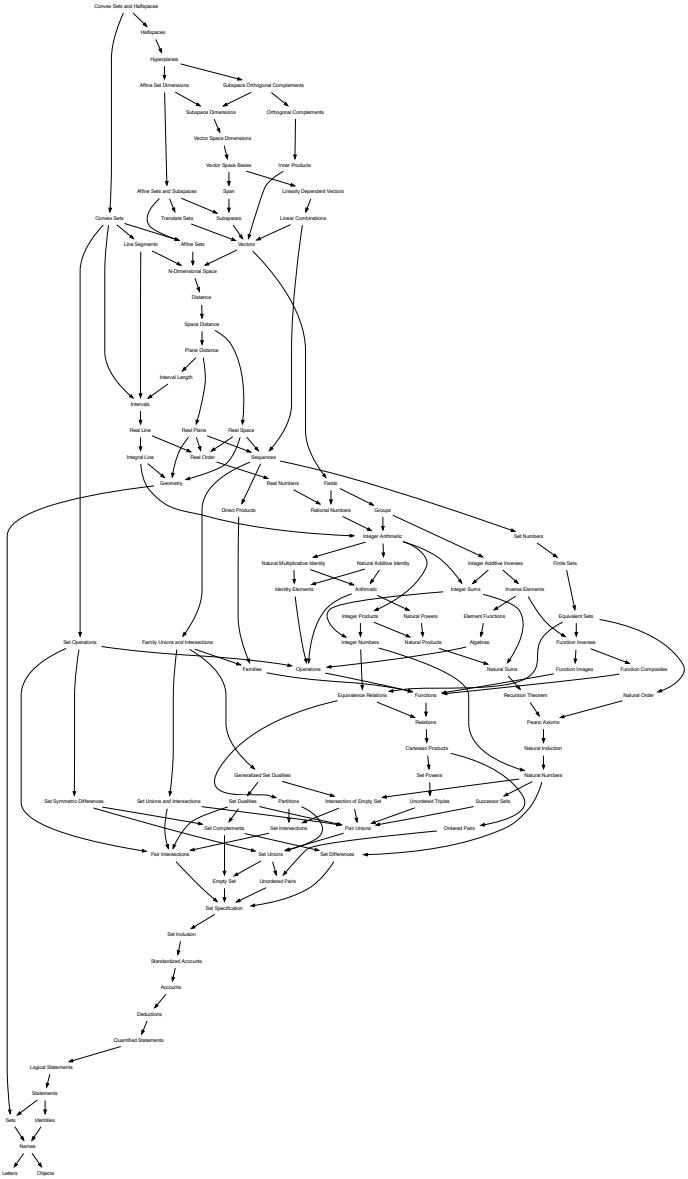
Main Result

Corollary 1. *Let* $(b_i)_{i\in I}$ *be a family in* $\mathbf{R}^n$ *and* $(\beta_i)_{i\in I}$ *be a family in* $\mathbf{R}$*. The set*

$$\{x \in \mathbf{R}^n \mid \langle x \rangle b_i \leq \beta_i \text{ for all } i \in I\}$$

is convex.

A *polyhedral* convex set is one which can be expressed as the intersection of a finite family of closed halfspaces.


Convex Sets and Halfspaces
Halfspaces
Hyperplanes
Affine Set Dimensions
Subspace Orthogonal Complements
Subspace Dimensions
Orthogonal Complements
Vector Space Dimensions
Vector Space Bases
Inner Products
Affine Sets and Subspaces
Span
Linearly Dependent Vectors
Convex Sets
Translate Sets
Subspaces
Linear Combinations
Line Segments
Affine Sets
Vectors
N-Dimensional Space
Distance
Space Distance
Plane Distance
Interval Length
Intervals
Real Line
Real Plane
Real Space
Integral Line
Real Order
Sequences
Geometry
Real Numbers
Fields
Direct Products
Rational Numbers
Groups
Set Numbers
Integer Arithmetic
Natural Multiplicative Identity
Natural Additive Identity
Integer Additive Inverses
Finite Sets
Identity Elements
Arithmetic
Integer Sums
Inverse Elements
Integer Products
Natural Powers
Element Functions
Equivalent Sets
Set Operations
Family Unions and Intersections
Integer Numbers
Natural Products
Algebras
Function Inverses
Families
Operations
Natural Sums
Function Images
Function Composites
Equivalence Relations
Functions
Recursion Theorem
Natural Order
Relations
Peano Axioms
Cartesian Products
Natural Induction
Generalized Set Dualities
Set Powers
Natural Numbers
Set Symmetric Differences
Set Unions and Intersections
Set Dualities
Partitions
Intersection of Empty Set
Unordered Triples
Successor Sets
Set Complements
Set Intersections
Pair Unions
Ordered Pairs
Pair Intersections
Set Unions
Set Differences
Empty Set
Unordered Pairs
Set Specification
Set Induction
Standardized Accounts
Accounts
Deductions
Quantified Statements
Logical Statements
Statements
Sets
Identities
Names
Letters
Objects