Definition

The *span* of a set of vectors $v_1, \ldots, v_k \in \mathbf{R}^n$ is the set

$$\mathrm{span}(\{v_1, \ldots, v_k\}) = \{\alpha_1 v_1 + \cdots + \alpha_k v_k \mid \alpha_i \in \mathbf{R}\},$$

the set of all linear combinations of the vectors $v_1, \ldots, v_k$.

Real Vectors Space

Real Linear Combinations

Real Vectors

N-Dimensional Space   Space Vectors   Plane Vector Sums and Differences

Distance

Plane Vectors

Space Distance

Plane Distance

Interval Length

Real Space

Intervals

Real Plane   Real Line

Real Order   Integral Line

Geometry   Rational Order   Real Numbers

Rational Numbers

Lists

Integer Arithmetic

Set Numbers   Natural Additive Identity   Natural Multiplicative Identity   Integer Products

Finite Sets   Identity Elements   Arithmetic   Natural Powers

Direct Products   Equivalent Sets

Family Unions and Intersections   Function Inverses   Comparisons   Integer Order   Integer Sums   Natural Products

Families   Function Composites   Function Images   Operations   Orders   Integer Numbers   Natural Sums

Functions   Converse Relations   Equivalence Relations   Natural Order   Recursion Theorem

Relations   Peano Axioms

Set Products   Natural Induction

Generalized Set Dualities   Set Powers   Natural Numbers

Set Unions and Intersections   Set Dualities   Unordered Triples   Successor Sets   Intersection of Empty Set   Partitions   Set Symmetric Difference

Ordered Pairs   Pair Unions   Set Intersections   Set Complements

Pair Intersections   Set Unions   Set Differences

Unordered Pairs   Empty Set

Set Specification

Set Equality

Set Inclusion

Standardised Accounts

Accounts

Deductions

Quantified Statements

Logical Statements

Statements

Sets   Identities

Names

Letters   Objects