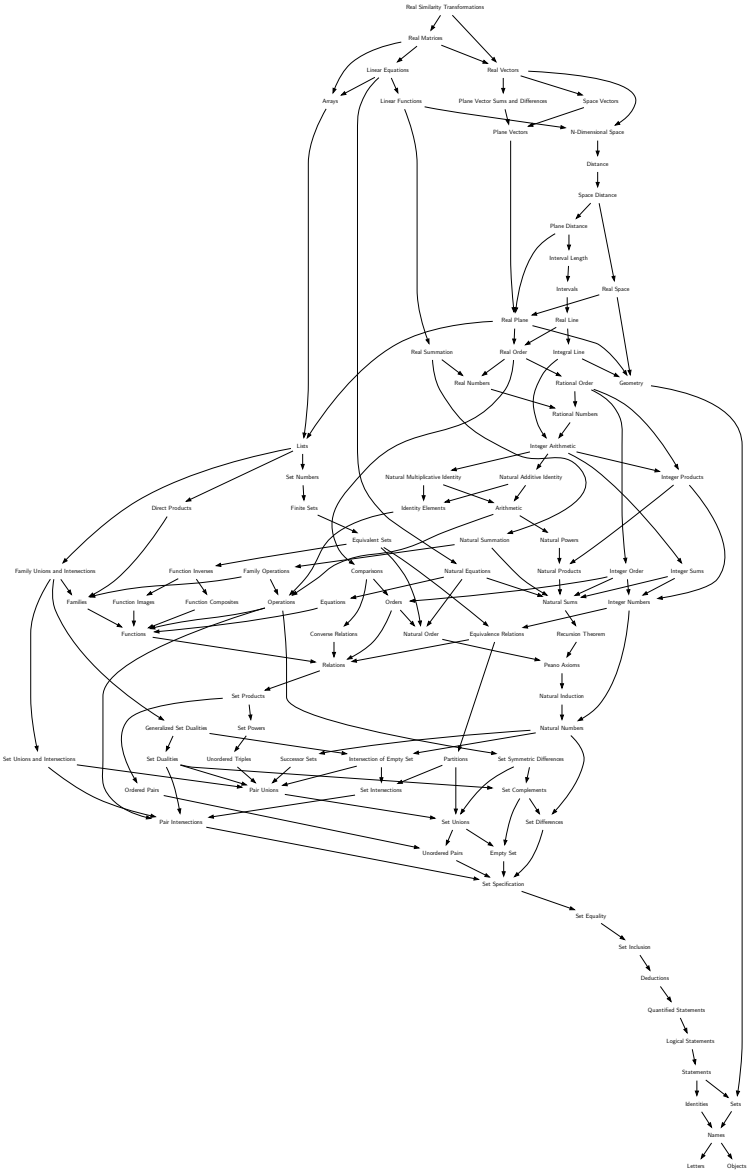
Standard basis vectors

Define $e_i \in \mathbf{R}^n$ by $[e_i]_j = 1$ if $i = j$ and 0 otherwise. Then $e_1, e_2, \ldots, e_n \in \mathbf{R}^n$ are called the *standard basis vectors* (*canonical basis vectors*) for $\mathbf{R}^n$. For example, in $\mathbf{R}^3$,

$$e_1 = \begin{bmatrix} 1 \\ 0 \\ 0 \end{bmatrix}$$


Real Similarity Transformations
Real Matrices
Linear Equations
Real Vectors
Arrays
Linear Functions
Plane Vector Sums and Differences
Space Vectors
Plane Vectors
N-Dimensional Space
Distance
Space Distance
Plane Distance
Interval Length
Intervals
Real Space
Real Plane
Real Line
Real Summation
Real Order
Integral Line
Real Numbers
Rational Order
Geometry
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Lists
Integer Arithmetic
Set Numbers
Natural Multiplicative Identity
Natural Additive Identity
Integer Products
Direct Products
Finite Sets
Identity Elements
Arithmetic
Equivalent Sets
Natural Summation
Natural Powers
Family Unions and Intersections
Function Inverses
Family Operations
Comparisons
Natural Equations
Natural Products
Integer Order
Integer Sums
Families
Function Images
Function Composites
Operations
Equations
Orders
Natural Sums
Integer Numbers
Functions
Converse Relations
Natural Order
Equivalence Relations
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 Differences
Ordered Pairs
Pair Unions
Set Intersections
Set Complements
Pair Intersections
Set Unions
Set Differences
Unordered Pairs
Empty Set
Set Specification
Set Equality
Set Inclusion
Deductions
Quantified Statements
Logical Statements
Statements
Identities
Sets
Names
Letters
Objects