Why

TODO

Definition

A first square matrix is *similar* to a second square matrix if there exists a nonsingular matrix such that the first matrix is identical to the product of the inverse of the nonsingular matrix the second square matrix and the nonsingular matrix.

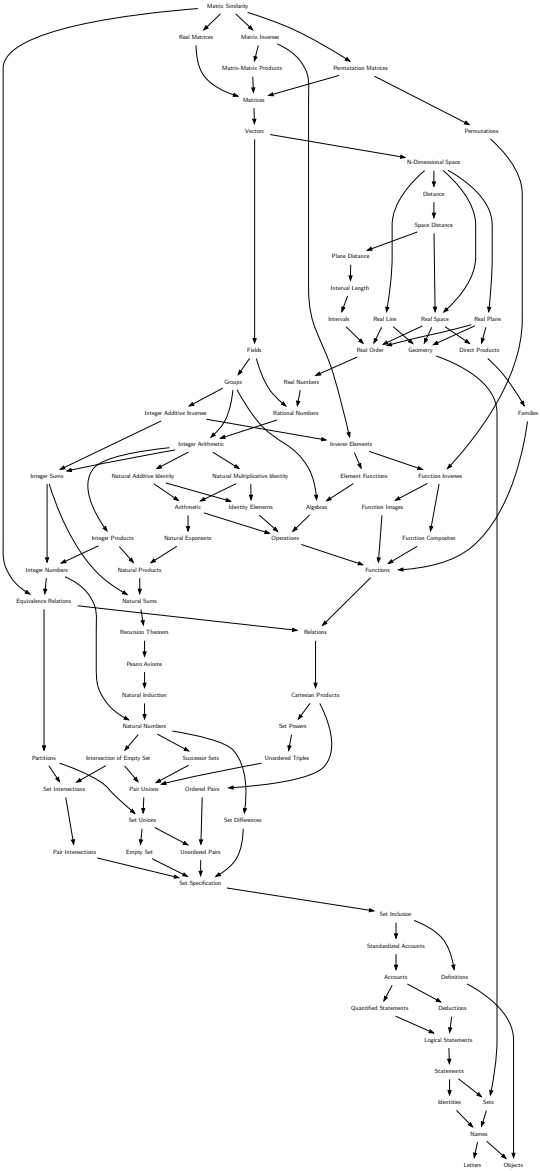
Notation

Let $A, B \in \mathbf{R}^{n \times n}$. B is similar to A if there exists a nonsingular matrix $S \in \mathbf{R}^{n \times n}$ such that

$$B = S^{-1}AS.$$

Equivalence Relation

Proposition **1.** *Similarity is an equivalence relation.*


Matrix Similarity
Real Matrices
Matrix Inverses
Matrix-Matrix Products
Permutation Matrices
Matrices
Vectors
Permutations
N-Dimensional Space
Distance
Space Distance
Plane Distance
Interval Length
Intervals
Real Line
Real Space
Real Plane
Real Order
Geometry
Direct Products
Fields
Groups
Real Numbers
Rational Numbers
Integer Additive Inverses
Families
Integer Arithmetic
Inverse Elements
Integer Sums
Natural Additive Identity
Natural Multiplicative Identity
Element Functions
Function Inverses
Arithmetic
Identity Elements
Algebras
Function Images
Integer Products
Natural Exponents
Operations
Function Composites
Integer Numbers
Natural Products
Functions
Equivalence Relations
Natural Sums
Recursion Theorem
Relations
Peano Axioms
Natural Induction
Cartesian Products
Natural Numbers
Set Powers
Partitions
Intersection of Empty Set
Successor Sets
Unordered Triples
Set Intersections
Pair Unions
Ordered Pairs
Set Unions
Set Differences
Pair Intersections
Empty Set
Unordered Pairs
Set Specification
Set Inclusion
Standardized Accounts
Accounts
Definitions
Quantified Statements
Deductions
Logical Statements
Statements
Identities
Sets
Names
Letters
Objects