Why

Definition

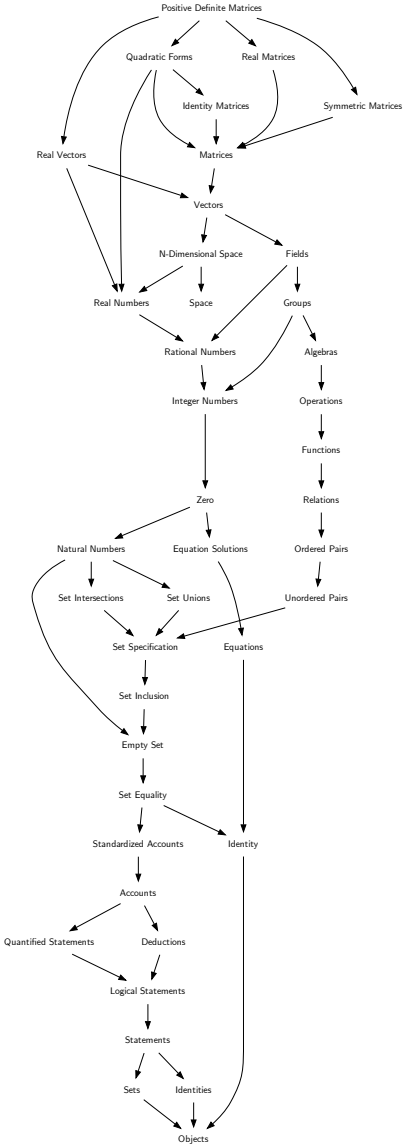
A matrix A is *positive definite* if all its quadratic forms are positive.

Notation

Let $A \in \mathbf{R}^{n \times n}$. A is positive definite if for every $x \in \mathbf{R}^d$,

$$x^T A x > 0.$$

We denote the set of real-valued positive definite d by d matrices by $\mathbf{S}^d_{++}$.


Positive Definite Matrices
Quadratic Forms
Real Matrices
Identity Matrices
Symmetric Matrices
Real Vectors
Matrices
Vectors
N-Dimensional Space
Fields
Real Numbers
Space
Groups
Rational Numbers
Algebras
Integer Numbers
Operations
Functions
Zero
Relations
Natural Numbers
Equation Solutions
Ordered Pairs
Set Intersections
Set Unions
Unordered Pairs
Set Specification
Equations
Set Inclusion
Empty Set
Set Equality
Standardized Accounts
Identity
Accounts
Quantified Statements
Deductions
Logical Statements
Statements
Sets
Identities
Objects