Why

Definition

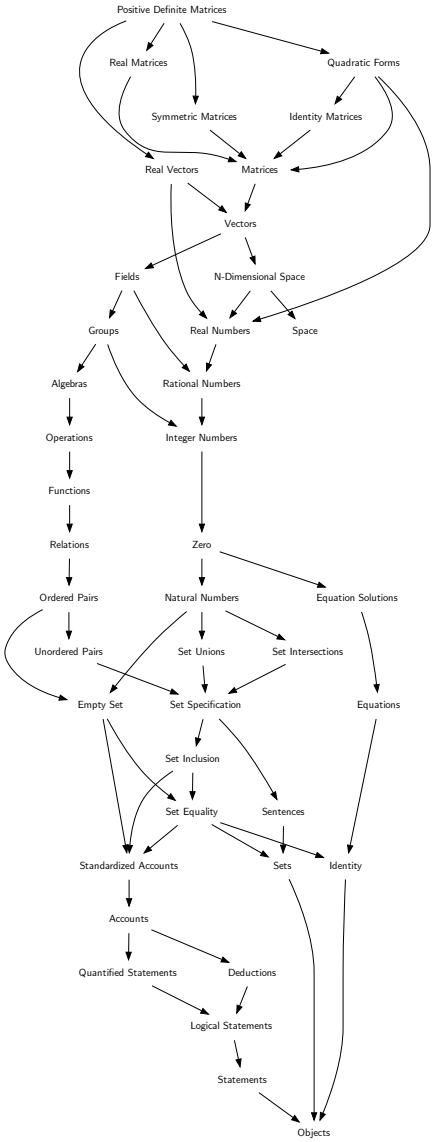
A matrix A is *positive definite* if all its quadratic forms are positive.

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