Why

1

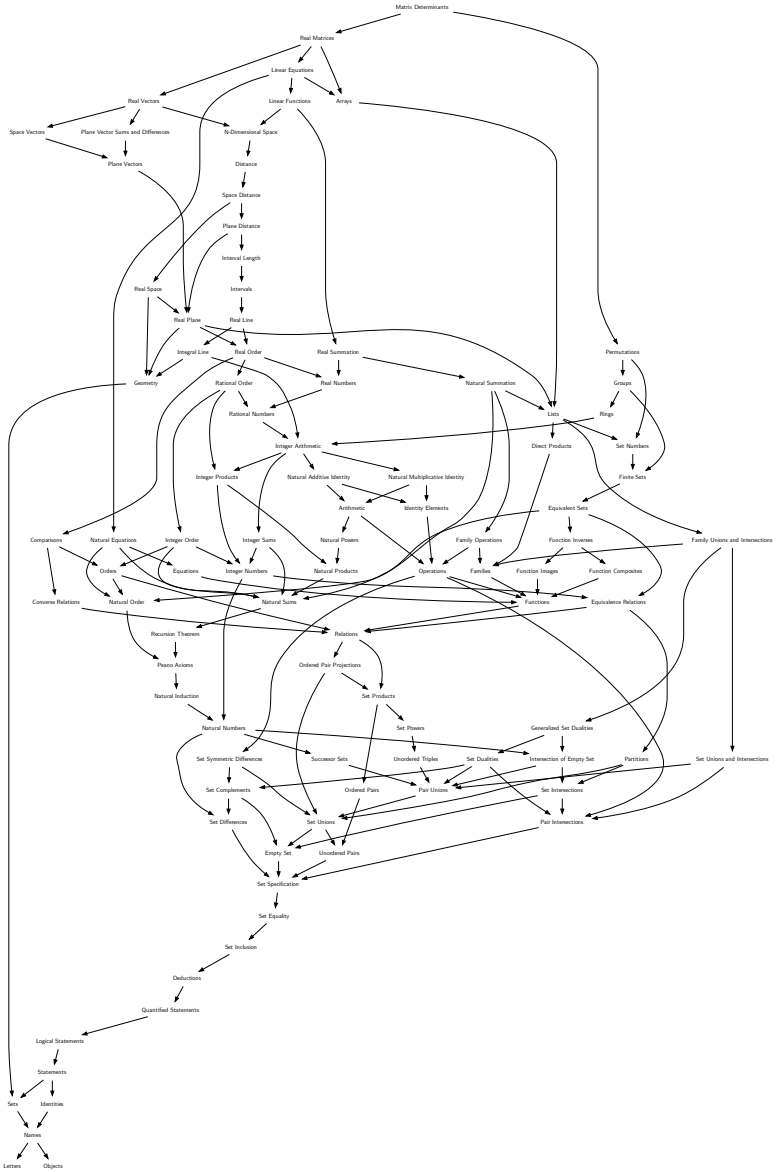
Definition

Let $A \in \mathbf{R}^{d \times d}$. The determinant of A is

$$\sum_{\sigma \in S_n} \left(\operatorname{sgn}(\sigma) \prod_{i=1}^{n} a_{i,\sigma_i} \right)$$

We denote the determinant of A by $\det A$.

[1] Future editions will include, and will probably take the genetic approach via volumes in three-dimensional space.


Matric Determinants
Real Matrices
Linear Equations
Real Vectors
Linear Functions
Arrays
Space Vectors
Plane Vector Sums and Differences
N-Dimensional Space
Plane Vectors
Distance
Space Distance
Plane Distance
Interval Length
Real Space
Intervals
Real Plane
Real Line
Integral Line
Real Order
Real Summation
Permutations
Geometry
Rational Order
Real Numbers
Natural Summation
Groups
Rational Numbers
Lists
Rings
Integer Arithmetic
Direct Products
Set Numbers
Integer Products
Natural Additive Identity
Natural Multiplicative Identity
Finite Sets
Arithmetic
Identity Elements
Equivalent Sets
Comparisons
Natural Equations
Integer Order
Integer Sums
Natural Powers
Family Operations
Function Inverses
Family Unions and Intersections
Orders
Equations
Integer Numbers
Natural Products
Operations
Families
Function Images
Function Composites
Converse Relations
Natural Order
Natural Sums
Functions
Equivalence Relations
Recursion Theorem
Relations
Peano Axioms
Ordered Pair Projections
Natural Induction
Set Products
Natural Numbers
Set Powers
Generalized Set Dualities
Set Symmetric Differences
Successor Sets
Unordered Triples
Set Dualities
Intersection of Empty Set
Partitions
Set Unions and Intersections
Set Complements
Ordered Pairs
Pair Unions
Set Intersections
Set Differences
Set Unions
Pair Intersections
Empty Set
Unordered Pairs
Set Specification
Set Equality
Set Inclusion
Deductions
Quantified Statements
Logical Statements
Statements
Sets
Identities
Names
Letters
Objects