Why

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