Why

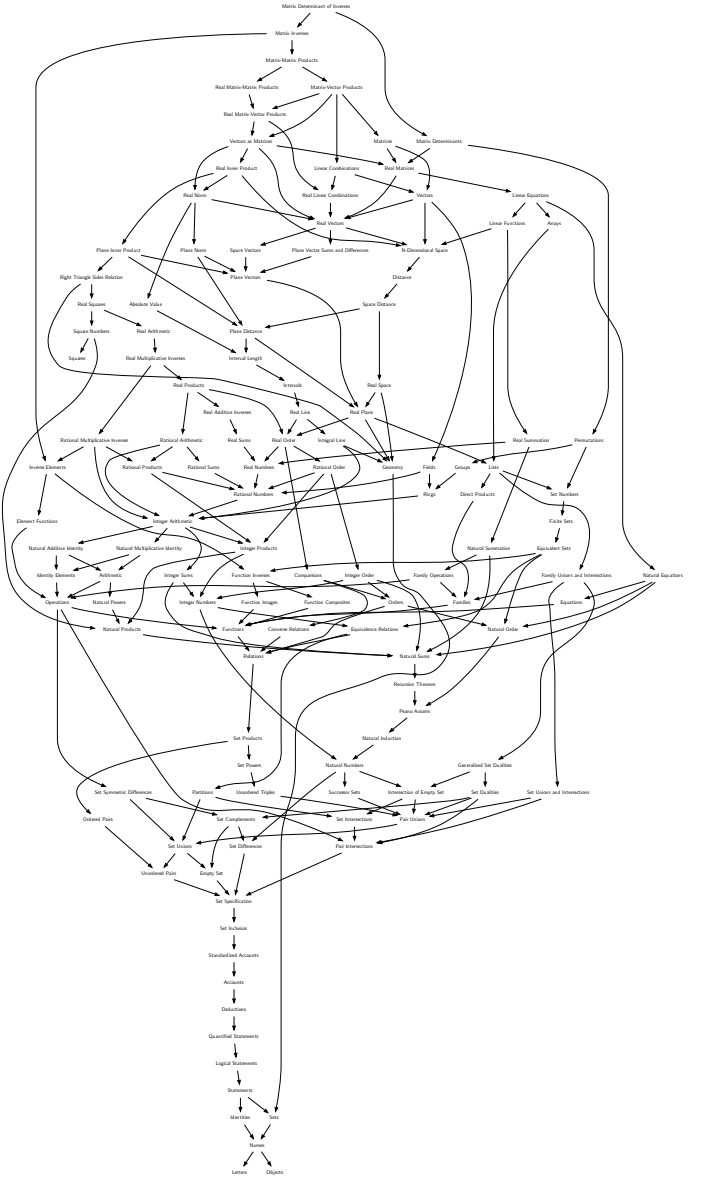
Result

Prop. 1. *The determinant of an invertible square real matrix is the multiplicative inverse of the determinant of the matrix.*

Proof. Let $A \in \mathbf{R}^{n \times n}$ be invertible. We want to show that

$$\det\left(A^{-1}\right) = (\det A)^{-1}.$$

□


Matrix Determinant of Inverses
Matrix Inverses
Matrix-Matrix Products
Real Matrix-Matrix Products
Matrix-Vector Products
Real Matrix-Vector Products
Vectors as Matrices
Matrices
Matrix Determinants
Real Inner Product
Linear Combinations
Real Matrices
Real Norm
Real Linear Combinations
Vectors
Linear Equations
Real Vectors
Linear Functions
Arrays
Plane Inner Product
Plane Norm
Space Vectors
Plane Vector Sums and Differences
N-Dimensional Space
Right Triangle Sides Relation
Plane Vectors
Distance
Real Squares
Absolute Value
Space Distance
Plane Distance
Square Numbers
Real Arithmetic
Squares
Real Multiplication Inverses
Interval Length
Real Products
Intervals
Real Space
Real Additive Inverses
Real Line
Real Plane
Rational Multiplicative Inverses
Rational Arithmetic
Real Sums
Real Order
Integral Line
Real Summation
Permutations
Inverse Elements
Rational Products
Rational Sums
Real Numbers
Rational Order
Geometry
Fields
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Direct Products
Set Numbers
Element Functions
Integer Arithmetic
Finite Sets
Natural Additive Identity
Natural Multiplication Identity
Integer Products
Natural Summation
Equivalent Sets
Identity Elements
Arithmetic
Integer Sums
Function Inverses
Comparisons
Integer Order
Family Operations
Family Unions and Intersections
Natural Equations
Operations
Natural Powers
Integer Numbers
Function Images
Function Composites
Orders
Families
Equations
Functions
Converse Relations
Equivalence Relations
Natural Order
Natural Products
Relations
Natural Sums
Recursive Theorem
Peano Axioms
Set Products
Natural Induction
Set Powers
Natural Numbers
Generalized Set Dualities
Set Symmetric Differences
Partitions
Unordered Triples
Successor Sets
Intersection of Empty Set
Set Dualities
Set Unions and Intersections
Ordered Pairs
Set Complements
Set Intersections
Pair Unions
Set Unions
Set Differences
Pair Intersections
Unordered Pairs
Empty Set
Set Specification
Set Inclusion
Standardized Accounts
Accounts
Deductions
Quantified Statements
Logical Statements
Statements
Identities
Sets
Names
Letters
Objects