Why

TODO

Result

Prop. 1. *The determinant of a product of two real matrices is the product of the determinant of each matrix.*

Proof. Let $A \in \mathbf{R}^{n \times p}$ and $B \in \mathbf{R}^{p \times n}$. We want to show that

$$\det(AB) = \det(A)\det(B).$$

[1]

$\square$

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[1] Future editions will include a proof.

Matrix Determinant of Product

Real Matrix-Matrix Products

Real Matrix-Vector Products

Vectors as Matrices — Matrix Determinants

Real Linear Combinations — Real Inner Product — Real Matrices

Real Norm — Linear Equations

Real Vector — Space Norm — Linear Functions

Space Vectors — Plane Vector Sums and Difference — N-Dimensional Space — Plane Norm — Plane Inner Product

Plane Vector — Distance — Right Triangle Sides Relation

Space Distance — Absolute Value — Real Squares

Plane Distance — Real Arithmetic — Square Numbers

Interval Length — Real Multiplicative Inverses — Squares

Real Space — Intervals — Real Products

Real Plane — Real Line — Real Additive Inverses

Integral Line — Rational Multiplicative Inverses — Permutations — Rational Arithmetic — Real Sums — Real Order — Real Summation

Geometry — Groups — Rational Products — Rational Sums — Real Numbers

Arrays — Rings — Rational Numbers — Rational Order

Lists — Integer Arithmetic

Set Numbers — Natural Multiplicative Identity — Natural Additive Identity — Integer Products

Direct Products — Finite Sets — Identity Elements — Arithmetic — Natural Summation — Natural Powers

Inverse Elements — Equivalent Sets — Comparison — Integer Sums — Integer Order — Natural Products — Natural Equations

Element Function — Function Inverses — Family Operations — Family Unions and Intersections — Integer Number — Order — Natural Sums — Equations

Operations — Function Composites — Function Images — Families — Natural Order

Functions — Converse Relations — Equivalence Relations — Recursion Theorem

Relations — Peano Axioms

Set Products — Natural Induction

Set Powers — Generalized Set Dualities — Natural Numbers

Set Symmetric Difference — Partitions — Set Dualities — Unordered Triple — Intersection of Empty Set — Successor Sets — 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 Equality

Set Inclusion

Standardized Accounts

Accounts

Deductions

Quantified Statements

Logical Statements

Statements

Sets — Identities

Names

Letters — Objects

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