Why

1

Definition

The *standard deviation* of a real-valued random variable is the square root of its variance.

Notation

Let f be an integrable real-valued random variable. Denote the standard deviation of f by $\mathbf{std}(f)$. We have defined it

$$\mathbf{std}(f) = \sqrt{\mathbf{var}(f)}.$$

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[1]Future editions will include this.

Standard Deviation

Covariance

Variance

Expectation

Random Variables

Topological Sigma Algebra — Measurable Functions

Topological Spaces — Outcome Variables

Metrics

Absolute Value — Distance

Real Square Roots — Probability Measure — Space Distance

Real Arithmetic — Event Probabilities — Measure — Plane Distance

Real Multiplication Inverses — Probability Distributions — Interval Length — Extended Real Number

Real Products — Intervals — Real Limits

Real Additive Inverses — Real Line — Real Plane — Real Space

Rational Multiplication Inverses — Rational Arithmetic — Real Sums — Real Summation — Real Sequences — Real Order — Integral Line

Natural Products — Rational Sums — Real Numbers — Sequences — Geometry

Rational Numbers — Set Numbers — Direct Products — Uncertain Outcomes

Natural Numbers — Integer Arithmetic — Integer Elements — Natural Summation — Finite Sets — Sigma Algebras

Natural Square Roots — Integer Products — Natural Multiplication Identity — Natural Additive Identity — Element Functions — Equivalent Sets — Subset Algebras — Cardinality — Family Unions and Intersections

Square Numbers — Natural Equations — Integer Sums — Arithmetic — Identity Elements — Algebras — Function Inverses — Families

Squares — Natural Exponents — Natural Order — Integer Numbers — Operations — Function Image — Function Composites

Natural Products — Equations — Equivalence Relations — Functions

Natural Sums — Relations

Recursion Theorem — Cartesian Products — Subset Systems

Peano Axioms — Ordered Pairs — Set Powers

Natural Induction — Unordered Triples — Generalized Set Dualities

Natural Numbers — Successor Sets — Set Dualities — Set Unions and Intersections

Partitions — Set Symmetric Differences — Intersection of Empty Set

Set Intersections — Set Complements — Pair Unions

Set Differences — Set Unions — Pair Intersections

Unordered Pairs — Empty Set

Set Specification

Set Inclusion — Standardized Accounts

Accounts

Deductions

Quantified Statements

Logical Statements

Statements

Identities — Sets

Names

Letters — Objects