Why

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Results

If the integral of the nth power of a real-valued random variable exists, the nth *moment* of the random variable is the expectation of its nth power.

Notation

Let $(X, \mathcal{A}, \mathbf{P})$ be a probability space. Let x be a real-valued random variable on X such that $\int x^n d\mathbf{P}$ exists. The nth moment of f is $\mathbf{E}(f^n)$.

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[1]Future editions will include.

Random Variable Moments

Expectation

Random Variable

Outcome Variables

Topological Sigma Algebra

Topological Spaces

Probability Measures

Measurable Functions

Metrics

Measures

Distance

Extended Real Numbers

Space Distance

Real Limits

Plane Distance

Absolute Value

Event Probabilities

Interval Length

Probability Distributions

Uncertain Outcomes

Intervals

Real Plane

Real Space

Real Line

Real Order

Integral Line

Real Sequences

Real Summation

Geometry

Sequence

Real Numbers

Sigma Algebras

Set Numbers

Direct Products

Rational Numbers

Finite Sets

Integer Arithmetic

Natural Summation

Subset Algebras

Natural Multiplicative Identity

Natural Additive Identity

Family Operations

Equivalent Sets

Arithmetic

Identity Elements

Algebras

Set Operations

Cardinality

Family Unions and Intersections

Natural Powers

Integer Products

Integer Sums

Function Inverses

Operations

Families

Natural Products

Integer Numbers

Function Images

Function Composites

Natural Sums

Equivalence Relations

Functions

Natural Order

Recursion Theorem

Relations

Peano Axioms

Set Products

Subset Systems

Set Powers

Natural Induction

Ordered Pairs

Generalized Set Dualities

Unordered Triples

Natural Numbers

Set Unions and Intersections

Partitions

Intersection of Empty Set

Set Dualities

Successor Sets

Set Symmetric Differences

Set Intersections

Pair Unions

Set Complements

Pair Intersections

Set Unions

Set Differences

Empty Set

Unordered Pair

Set Specification

Set Inclusion

Standardized Accounts

Accounts

Deductions

Quantified Statements

Logical Statements

Statements

Sets

Identities

Names

Letters

Objects

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