Why

[1]

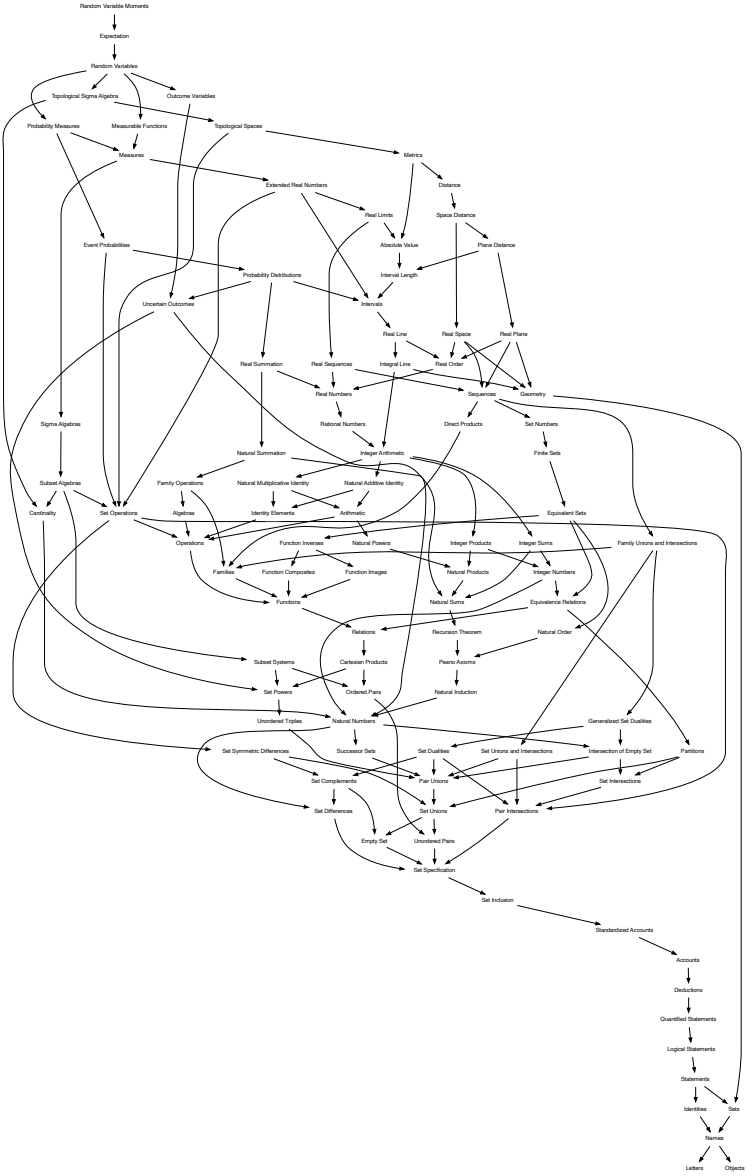
Results

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 $\mathsf{E}(f^n)$.

[1] Future editions will include.


Random Variable Moments
Expectation
Random Variables
Topological Sigma Algebra
Outcome Variables
Probability Measures
Measurable Functions
Topological Spaces
Measures
Metrics
Extended Real Numbers
Distance
Real Limits
Space Distance
Absolute Value
Plane Distance
Event Probabilities
Interval Length
Probability Distributions
Uncertain Outcomes
Intervals
Real Line
Real Space
Real Plane
Real Summation
Real Sequences
Integral Line
Real Order
Real Numbers
Sequences
Geometry
Sigma Algebras
Rational Numbers
Direct Products
Set Numbers
Natural Summation
Integer Arithmetic
Finite Sets
Subset Algebras
Family Operations
Natural Multiplicative Identity
Natural Additive Identity
Cardinality
Set Operations
Algebras
Identity Elements
Arithmetic
Equivalent Sets
Operations
Function Inverses
Natural Powers
Integer Products
Integer Sums
Family Unions and Intersections
Families
Function Composites
Function Images
Natural Products
Integer Numbers
Functions
Natural Sums
Equivalence Relations
Relations
Recursion Theorem
Natural Order
Subset Systems
Cartesian Products
Peano Axioms
Set Powers
Ordered Pairs
Natural Induction
Unordered Triples
Natural Numbers
Generalized Set Dualities
Set Symmetric Differences
Successor Sets
Set Dualities
Set Unions and Intersections
Intersection of Empty Set
Partitions
Set Complements
Pair Unions
Set Intersections
Set Differences
Set Unions
Pair Intersections
Empty Set
Unordered Pairs
Set Specification
Set Inclusion
Standardized Accounts
Accounts
Deductions
Quantified Statements
Logical Statements
Statements
Identities
Sets
Names
Letters
Objects