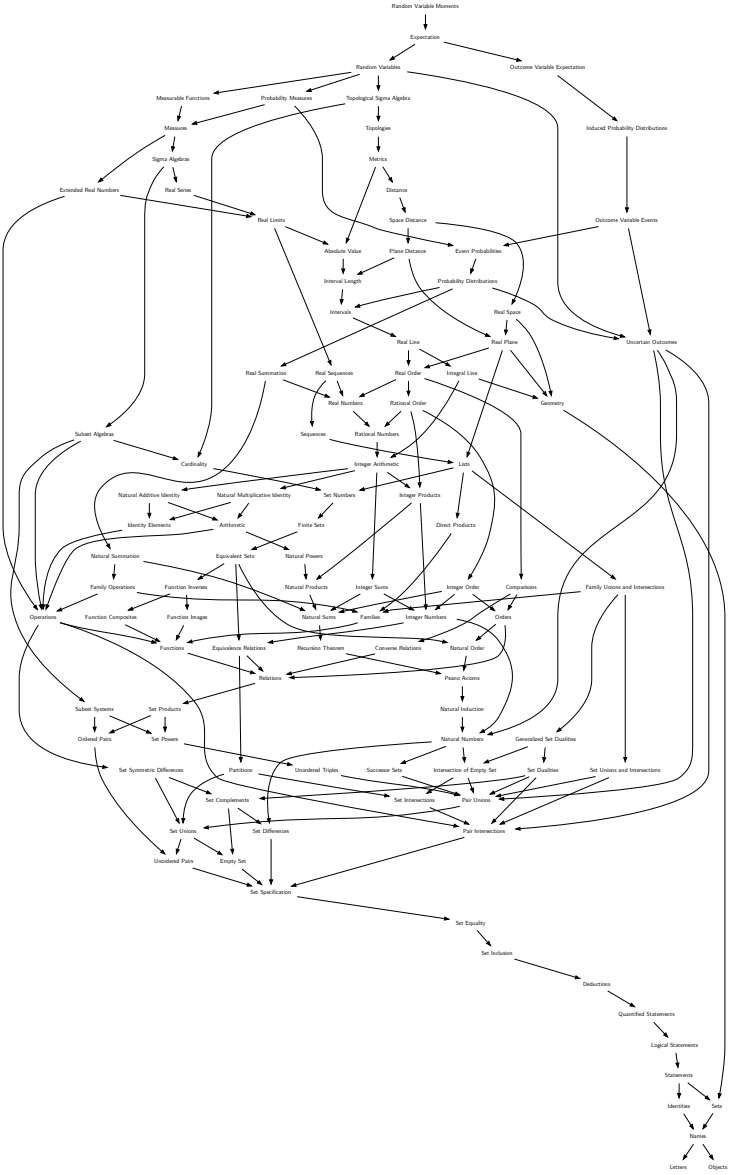
Results

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


Random Variable Moments
Expectation
Random Variables
Outcome Variable Expectation
Measurable Functions
Probability Measures
Topological Sigma Algebra
Induced Probability Distributions
Measures
Topologies
Sigma Algebras
Metrics
Extended Real Numbers
Real Series
Distance
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Outcome Variable Events
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Intervals
Real Space
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Uncertain Outcomes
Real Summation
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Real Order
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Rational Order
Geometry
Subset Algebras
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Cardinality
Integer Arithmetic
Lists
Natural Additive Identity
Natural Multiplicative Identity
Set Numbers
Integer Products
Identity Elements
Arithmetic
Finite Sets
Direct Products
Natural Summation
Equivalent Sets
Natural Powers
Family Operations
Function Inverses
Natural Products
Integer Sums
Integer Order
Comparisons
Family Unions and Intersections
Operations
Function Composites
Function Images
Natural Sums
Families
Integer Numbers
Orders
Functions
Equivalence Relations
Recursion Theorem
Converse Relations
Natural Order
Relations
Peano Axioms
Subset Systems
Set Products
Natural Induction
Ordered Pairs
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
Set Complements
Set Intersections
Pair Unions
Set Unions
Set Differences
Pair Intersections
Unordered Pairs
Empty Set
Set Specification
Set Equality
Set Inclusion
Deductions
Quantified Statements
Logical Statements
Statements
Identities
Sets
Names
Letters
Objects