Why

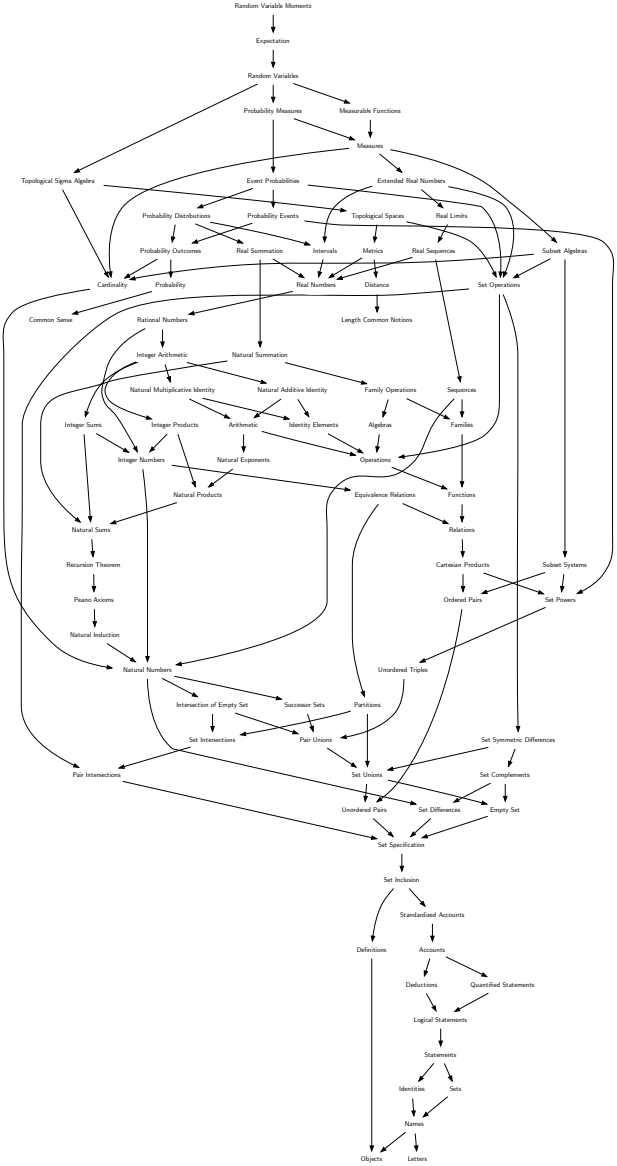
TODO

Results

Let n be a natural number. 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 n be a natural number. Let $(X, \mathcal{A}, \mu)$ be a probability space. Let f be a real-valued random variable on X such that $\int f^n d\mu$ exists. In expectation notation, the nth moment of f is $\mathsf{E}(f^n)$.


Random Variable Moments
Expectation
Random Variables
Probability Measures
Measurable Functions
Measures
Topological Sigma Algebra
Event Probabilities
Extended Real Numbers
Probability Distributions
Probability Events
Topological Spaces
Real Limits
Probability Outcomes
Real Summation
Intervals
Metrics
Real Sequences
Subset Algebras
Cardinality
Probability
Real Numbers
Distance
Set Operations
Common Sense
Length Common Notions
Rational Numbers
Integer Arithmetic
Natural Summation
Natural Multiplicative Identity
Natural Additive Identity
Family Operations
Sequences
Integer Sums
Integer Products
Arithmetic
Identity Elements
Algebras
Families
Integer Numbers
Natural Exponents
Operations
Natural Products
Equivalence Relations
Functions
Natural Sums
Relations
Recursion Theorem
Cartesian Products
Subset Systems
Peano Axioms
Ordered Pairs
Set Powers
Natural Induction
Natural Numbers
Unordered Triples
Intersection of Empty Set
Successor Sets
Partitions
Set Intersections
Pair Unions
Set Symmetric Differences
Pair Intersections
Set Unions
Set Complements
Unordered Pairs
Set Differences
Empty Set
Set Specification
Set Inclusion
Standardized Accounts
Definitions
Accounts
Deductions
Quantified Statements
Logical Statements
Statements
Identities
Sets
Names
Objects
Letters