Why

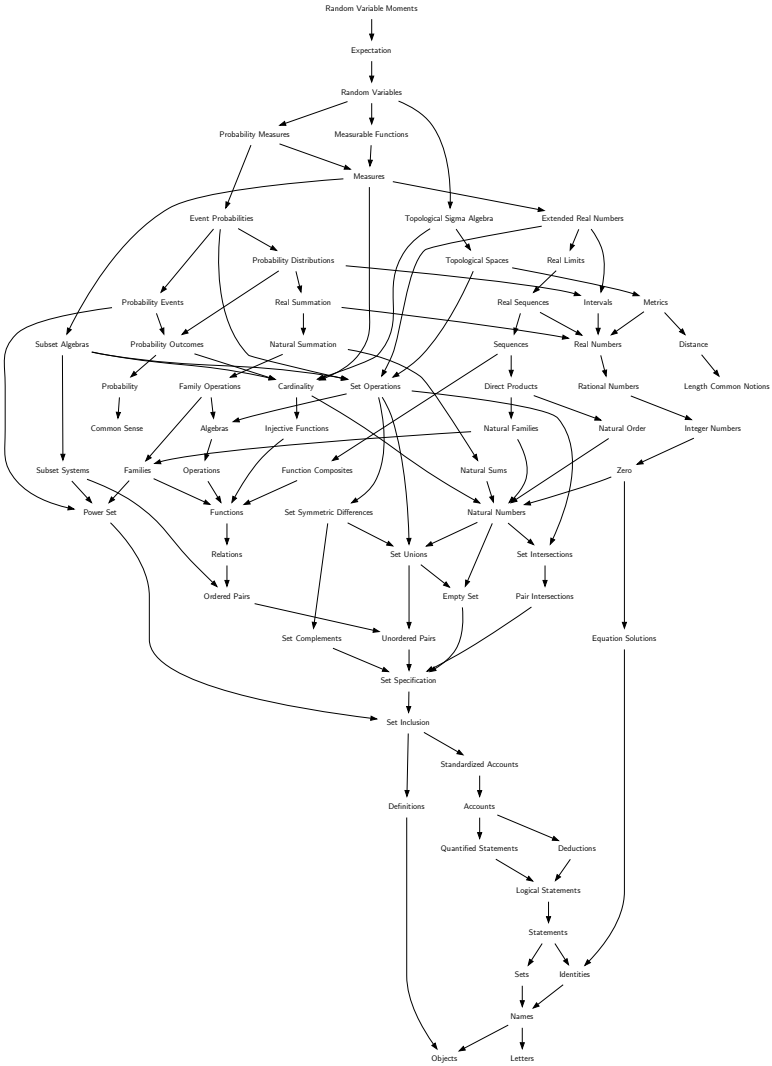
TODO

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
Event Probabilities
Topological Sigma Algebra
Extended Real Numbers
Probability Distributions
Topological Spaces
Real Limits
Probability Events
Real Summation
Real Sequences
Intervals
Metrics
Subset Algebras
Probability Outcomes
Natural Summation
Sequences
Real Numbers
Distance
Probability
Family Operations
Cardinality
Set Operations
Direct Products
Rational Numbers
Length Common Notions
Common Sense
Algebras
Injective Functions
Natural Families
Natural Order
Integer Numbers
Subset Systems
Families
Operations
Function Composites
Natural Sums
Zero
Power Set
Functions
Set Symmetric Differences
Natural Numbers
Relations
Set Unions
Set Intersections
Ordered Pairs
Empty Set
Pair Intersections
Set Complements
Unordered Pairs
Equation Solutions
Set Specification
Set Inclusion
Standardized Accounts
Definitions
Accounts
Quantified Statements
Deductions
Logical Statements
Statements
Sets
Identities
Names
Objects
Letters