Why

Definition

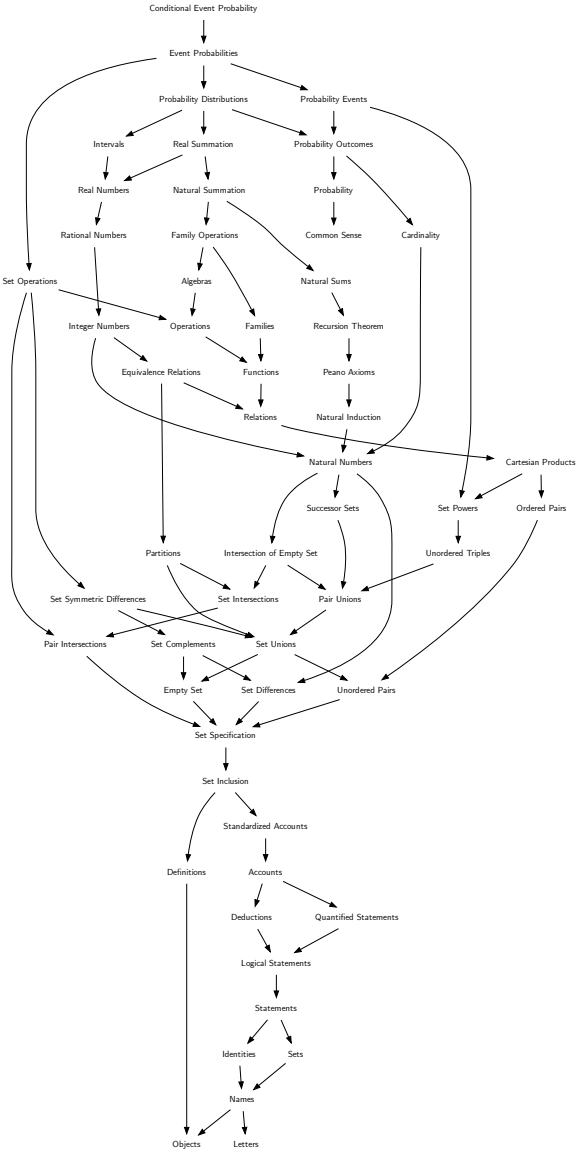
Consider two events, the second of which has non-zero probability. The *conditional probability* of the first event *conditioned* on a second event is the result of dividing the probability of the second event into the probability of the intersection of the two events.

Notation

Let $\mathbf{P}$ be the event probability function. Let A and B be two events with $\mathbf{P}(B) \neq 0$. Then the conditional probability of A conditioned on B is

$$\frac{\mathbf{P}(A \cap B)}{\mathbf{P}(B)}.$$

We denote this by $\mathbf{P}(A \mid B)$.


Conditional Event Probability
Event Probabilities
Probability Distributions
Probability Events
Intervals
Real Summation
Probability Outcomes
Real Numbers
Natural Summation
Probability
Rational Numbers
Family Operations
Common Sense
Cardinality
Set Operations
Algebras
Natural Sums
Integer Numbers
Operations
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Recursion Theorem
Equivalence Relations
Functions
Peano Axioms
Relations
Natural Induction
Natural Numbers
Cartesian Products
Successor Sets
Set Powers
Ordered Pairs
Partitions
Intersection of Empty Set
Unordered Triples
Set Symmetric Differences
Set Intersections
Pair Unions
Pair Intersections
Set Complements
Set Unions
Empty Set
Set Differences
Unordered Pairs
Set Specification
Set Inclusion
Standardized Accounts
Definitions
Accounts
Deductions
Quantified Statements
Logical Statements
Statements
Identities
Sets
Names
Objects
Letters