Why

1

Definition

Two events are *independent* if the probability of their intersection is the product of their respective probabilities.

Definition

Let $\mathbf{P}$ be an event probability function with set of outcomes A. Then the events B and C are independent if

$$\mathbf{P}(B \cap C) = \mathbf{P}(B)\mathbf{P}(C).$$

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[1]To appear in future editions.

Event Independence

Conditional Event Probability

Event Probabilities

Probability Distributions

Intervals

Real Line

Real Order   Real Summation

Rational Order   Real Numbers

Integral Line   Rational Numbers

Integer Arithmetic

Integer Products   Natural Multiplicative Identity   Natural Additive Identity

Arithmetic   Identity Elements   Natural Summation

Natural Powers   Family Operations

Integer Sums   Natural Products   Integer Order   Comparisons   Algebras   Set Operations

Integer Numbers   Natural Sums   Orders   Operations   Families

Equivalence Relations   Recursion Theorem   Natural Order   Converse Relations   Functions

Peano Axioms   Relations

Natural Induction   Uncertain Outcomes   Set Products

Natural Numbers   Set Powers   Ordered Pairs

Successor Sets   Intersection of Empty Set   Unordered Triples   Partitions   Set Symmetric Differences

Pair Unions   Set Intersections

Pair Intersections   Set Unions   Set Complements

Unordered Pairs   Set Differences   Empty Set

Geometry   Set Specification

Set Inclusion

Standardized Accounts

Accounts

Deductions

Quantified Statements

Logical Statements

Statements

Sets   Identities

Names

Letters   Objects