Why

We discuss negligible sets in the language of probability measures.

Definition

Let $(\Omega, \mathcal{A}, \mathbf{P})$ be a probability space. An event $A \in \mathcal{A}$ happens *almost surely* (or *almost certainly*, *almost always*) if $\mathbf{P}(A) = 1$. (An equivalent condition is that $\mathbf{P}(\Omega - A) = 0$.) Conversely, an event $B \subset \Omega$ happens *almost never* if $\mathbf{P}(B) = 0$.

Almost Sure Events

Negligible Sets
Probability Measures

Measures

Sigma Algebra

Extended Real Numbers
Real Series

Real Limits
Event Probabilities

Absolute Value
Outcome Probabilities

Interval Length
Real Functions

Intervals

Real Line

Real Sequences
Real Order
Real Summation

Subset Algebra
Sequences
Rational Order
Real Numbers
Natural Summation

Cardinality
Limits
Rational Numbers
Integral Line

Set Numbers
Direct Products
Integer Arithmetic

Finite Sets
Natural Additive Identity
Natural Multiplicative Identity
Integer Products

Equivalent Sets
Identity Elements
Family Operations
Arithmetic
Uncertain Events

Function Inverse
Family Unions and Intersections
Comparisons
Operations
Integer Order
Integer Sums
Natural Powers

Function Image
Function Composites
Families
Orders
Integer Numbers
Natural Products

Functions
Natural Order
Equivalence Relations
Converse Relations
Natural Sums

Relations
Recursion Theorem

Ordered Pair Projections
Peano Axioms
Uncertain Outcomes

Subset Systems
Set Products
Natural Induction

Generalized Set Dualities
Set Powers
Ordered Pairs
Natural Numbers

Set Unions and Intersections
Partitions
Intersection of Empty Set
Set Dualities
Unordered Triples
Successor Sets
Set Symmetric Differences

Set Intersections
Pair Unions
Set Complements

Pair Intersections
Set Unions
Set Differences

Empty Set
Unordered Pairs

Set Specification
Geometry

Set Equality

Set Inclusion

Deductions

Quantified Statements

Logical Statements

Statements

Identities
Sets

Names

Letters
Objects

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