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Probability and Applied Stats

Formula Sheet 2

Mean:

Variance:

Standard Deviation:

Population Standard Deviation:

Permutation:

Combination:

Conditional Probability:

The Multiplicative Law of Probability:

If A and B are independent:

The Additive Law of Probability:

If A and B are mutually exclusive:

If A is an event

Theorem of Total Probability:

Bayes’ Rule:

Probability Distribution:

Binomial Distribution:

Geometric Distribution:

On:

Before:

On or Before:

After:

On or After:

Hypergeometric Probability Distribution:

Poisson Probability Distribution:

Tchebysheff’s Theorem:

**Continuous Random Variables**

Distribution Function:

Probability Density Function:

Uniform Probability Distribution:

Joint Probability Function:

Jointly Probability density function:

Marginal Probability Function:

,

Marginal Density Functions:

, and

Conditional Density:

Independent Joint Distribution:

Independent Marginal Probability functions:

Independent Marginal Density Functions: