Combinations ${}_nC_r$ =

Permutations ${}_nP_r$ =

Combinatorics

PMF: probability mass function

Event

Sample Space

Joint Probability

Conditional Probability, Bayes' Theorem

Distributions

Discrete

Continuous

Binomial Distribution - $P(X=k) = \binom{n}{k} p^k (1-p)^{n-k}$

where $\binom{n}{k} = \frac{n!}{k!(n-k)!}$ (binomial coefficient)

Bernoulli Distribution - $P(X=k) = p^k (1-p)^{n-k}$

special case of Bernoulli distribution where $n=1$