Formula Sheet

Mean:

Standard Deviation: 

Variance:

Permutation:

Combination: 

Union:

Intersection: 

Complement: 

Binomial: 

Geometric:

Trials of a probability experiment satisfy the conditions for a geometric distribution with a probability of success p:

A success occurs on or before the nth trial: 

A success occurs before the nth trial: 

A success occurs on or after the nth trial: 

A success occurs after the nth trial: 

Conditional Probability: 

Independence/Dependence:

Events A and B are Independent if:



Otherwise, events are dependent

Probability Mass Function: for all y





Poisson: 

Hypergeometric: 

p is the probability of obtaining k successes

k is the number of “successes” in the population

x is the number of “successes” in the sample

n is the number sample

 is the number of combinations of k things taken x at a time

Chebyshev theorem: 

X= random variable

= expected value

= standard deviation

k= number of standard deviations from the mean

Probability Density Function: 

Cumulative distribution function: 