

1 Algebra

Absolute Value Inequalities

$$|f(x)| < a \Rightarrow -a < f(x) < a.$$

$$|f(x)| > a \Rightarrow f(x) > a \text{ or } f(x) < -a$$

2 Important probability distributions

Bernoulli

Exponential

Gaussian

Poisson

Uniform

3 Expectation and Variance

Expectation

Variance

Covariance

Variance and expectation of mean of iid random variables

4 Law of large Numbers

5 Central Limit theorem

6 Statistical models

7 Confidence intervals

Onesided

Twosided

Delta Method

8 Hypothesis tests

Onesided

Twosided

P-Value