

Lehmann-Scheffe

Lehmann-Scheffe theorem

Example

Suppose $X_1, \dots, X_n \stackrel{iid}{\sim} \text{Uniform}[0, \theta]$.

Exponential families

Example

Suppose that $X_1, \dots, X_n \stackrel{iid}{\sim} \text{Poisson}(\lambda)$.

Exponential families and completeness

Example

Suppose that $X_1, \dots, X_n \stackrel{iid}{\sim} \text{Bernoulli}(p)$.

- + Show the the Bernoulli is an exponential family distribution
- + Find a complete, sufficient statistic
- + Use the complete, sufficient statistic to find a best unbiased estimator of p