Homework 7

MATH 281A

December 8, 2014

Exercise 1.9.6.32.

Use the definition of completeness and it is trivial.

Exercise 2.7.3.23.

Here $P(\lambda)$ stands for Poisson distribution with parameter λ. And the t in the estimator simply means the sum of the all samples.

Calculate the expectation of the estimator with brute force. And finalize your answer with Lehmann-Scheffe.

(b) part is obvious since you are using something with positive probability to be negative to estimate something positive.

Exercise 1.9.7.10/1.9.5.31/1.9.5.32.

Done before.

Exercise 2.7.1.14.

It is trivial to show the necessary condition part. For the other side, consider 0 to be a function of θ, then the completeness is a one-liner.

Exercise 2.7.2.25/27.

Done before.