Problem Set 4

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Problem 15

You take numsim samples of size n from a gamma distribution with parameters $\hat{\alpha}$ and $\hat{\lambda}$ and find the upper quartile of each sample. You use the standard deviation of these numsim samples as the estimation of the standard error of q_hat.

Problem 17

Part (a)

Plot various density curves for different values of alpha.

Part (b)

Sample from the distribution (with some given alpha), find μ_2, and plug into derived formula to get $\hat{\alpha}$

Part (c)

Part (d)

Asymptotic variance formula given on page 277.

Part (e)

Sufficient statistic formula given on page 306.