

Quiz Problem 8
Due Apr. 1st, 11:59 pm EST

Problem.

Let $X_n \stackrel{iid}{\sim} f$ where

$$f(x) = \frac{\lambda^k x^{k-1} \exp(-\lambda x)}{(k-1)!}$$

where $\lambda > 0$ is unknown and k is some known integer. What is the UMVUE for $\tau(\lambda) = \frac{1}{\lambda^2}$? Hint: $E[X_n] = k/\lambda$ and $Var(X_n) = k/\lambda^2$.
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