A. Problems to Submit

1. BE Exercise 11.1, 11.4, 11.20
2. BE Exercise 11.5, 11.7(b)-(d) using the result in part (a).
3. Suppose that 45 elderly patients from a clinical practice are selected at random in a study of re-hospitalization rate. The number of re-hospitalizations per patient is assumed to be Poison distributed with mean μ. The average number of re-hospitalizations per patient was $\bar{x} = 1.7$ in the selected sample. Find an approximate 95% confidence interval for μ using the observed data.

B. Additional Practice Problems

1. BE Exercise 11.3, 11.9, 11.7(a)
   - In 11.7(a), you may need to use the change-of-variables approach to establish the result.
2. BE 11.13

C. Advanced Problems

1. BE Exercise 11.8, 11.16, 11.25, 11.26
   - In 11.25, the General Method of deriving confidence intervals covered in Section 10.4 should be used.
2. Suppose X is a real random variable with continuous density $f_\theta(x) = 2\theta^2/(x+\theta)^3$ for $x > 0$ and $f_\theta(x) = 0$ otherwise. Here $\Omega = \{\theta : \theta > 0\}$.
   (a) For each possible value of θ find a value $g(\theta)$ such that $P_\theta\{X \geq g(\theta)\} = \gamma$, where $0 < \gamma < 1$.
   (b) Use the result from (a) to find an upper confidence limit on θ with confidence coefficient γ. Note that there is only one observation X instead of n iid observations $X_1, \cdots, X_n$.