Stat871 HW05

- For H₀: λ = 0.4 versus H_a: λ = 0.8 where λ is the mean of a Poisson population. With a sample of size 10 find most powerful test at level 0.05.
 Use link on www.math.wichita.edu/~xhu/ to access a Poisson distribution calculator.
- 2. For $H_0: \mu = 8$ versus $H_0: \mu = 4$ where μ is from a population $N(\mu, 10^2)$. With a sample of size 40 find the most powerful test at level 0.05.
- 3. $\phi(X)$ is the most powerful test at level α for H_0 : $\theta = \theta_0$ versus H_a : $\theta = \theta_1$ by Neyman-Pearson lemma. Show that $\phi(X)$ is unbiased. Hint: Need to show $E_{\theta_0}[\phi(X)] \leq E_{\theta_1}[\phi(X)]$. Let $\psi(X) \equiv \alpha$.