I promised some additional problems from nearer the end.

1. Suppose $X_1, \ldots, X_n$ have the pdf $f(x) = \frac{1}{\theta} e^{-x/\theta}$ for $0 < x < 1$. Then $\hat{\theta} = \bar{X}$. We wish to test $H_0 : \theta_0 = 1$ versus $H_1 : \theta_0 \neq 1$.

   - Find $-2 \log(\Lambda)$. If $n = 10$, for what values of Λ do we reject H_0 if we want a test with approximate size $\alpha = 0.05$?

   - Determine the Wald-type test by finding χ_W^2.

2. Book problem 6.3.9.

3. $X_1, \ldots, X_n$ are from some pdf $f(x; \theta)$ that satisfy all regularity conditions. We reject $H_0 : \theta = \theta_0$ in favor of $H_1 : \theta \neq \theta_0$, if $\Lambda < 0.0811$. Find the approximate size of this test.