Homework #1

$$p(t) = \frac{t^5}{c \times \theta^6} e^{-\frac{t}{\theta}} \qquad \min_{\theta} : \prod_{i=1}^{n} \frac{t^5}{c \times \theta^6} e^{-\frac{t}{\theta}}, \quad t = [1,3,1,5,4,2,7,1,2,2,4,3,4]$$

$$\min_{\theta} : \sum_{i=1}^{n} (5\ln(t) - 6\ln(\theta) - \ln(c) - t\theta^{-1})$$

$$\frac{\partial \log L(\theta)}{\partial \theta} = \sum_{i=1}^{n} \left(\frac{t}{\theta^2} - \frac{6}{\theta} \right) = 0 \qquad \sum_{i=1}^{n} (t - 6\theta) = 0$$

$$\sum_{i=1}^{n} 6\theta = \sum_{i=1}^{n} t \qquad \theta \sum_{i=1}^{n} 6 = \sum_{i=1}^{n} t \qquad \theta = \frac{39}{78} = \boxed{.5}$$

(13·6) (39)