**Homework 5**

Hand in 3 of the following 4 problems

1. 6.8
2. 6.30. Be sure to compare rates of change for the 4 methods.
3. Suppose a client wants to test the lethalness of a drug with logdose levels $X = .5,\ 1.0,\ 1.5,\ 2.0,\ 2.5$; $\alpha = .05$. The client would like to detect a change in the odds of 1.5 from one dose level to the next with 80% power. If the probability of a lethal response is .3 at the mean logdose, what sample size should be used for each dose level?
4. Use the data in 7.7 to answer the following questions:
   - Construct a baseline-category logit model that describes the response as a function of the main effects of Gender, Location, and Seat Belt Use. Use response 3 as the reference response. For each main effect, interpret two of the parameters as log odds ratios.
   - Compute all estimated response probabilities for males in rural areas who do not wear safety belts.