

## HOMEWORK SET #2

*Due: Thursday, October 13*

1. Compute the inbreeding coefficient for an offspring of each of the following:
  - (a) a self-fertilizing parent
  - (b) full siblings
  - (c) first cousins
2. In a particular population with a mean inbreeding coefficient of 0.005, a rare recessive disease is caused by an allele with a frequency of 0.001. What is the ratio of diseased homozygotes in this population compared to that in a random mating population? What are the implications of your answer?
3. Nielsen & Slatkin, p. 74 #4.1
4. Nielsen & Slatkin, p. 74 #4.2
5. Nielsen & Slatkin, p. 33 #2.1
6. Nielsen & Slatkin, p. 33 #2.2
7. Nielsen & Slatkin, p. 57 #3.1
8. Nielsen & Slatkin, p. 58 #3.5
9. Nielsen & Slatkin, p. 58 #3.6
10. Nielsen & Slatkin, p. 58 #3.7
11. Nielsen & Slatkin, p. 58 #3.8