## Homework 3

(Due Thursday, Feb. 14)

Chapter 1.9: 13 ( $\gamma$  is the same as  $c_{ext}$ ), 17, 21

**Chapter 1.10:** 13, 25-27

**Chapter 1.11:** 15-18

Chapter 3.1: 33

Chapter 3.2: 21-26 (using the Ricker Model on p. 259)

Chapter 3.3: 51-54 (optimizing payoff, not harvest)

**Extra Credit:** Design a DTDS modeling the spread of a deadly plague. Why is your model reasonable? What are the resulting dynamics? How would you incorporate vaccination? Is there hope for the human race?