

ECO 601
Fall 2003
Problem Set #9

Due: Monday, November 17

1. Nicholson 13.1
2. RE problem 13.1 above: As John's parent, you have bankrolled his business. In particular, you are letting him use the family lawnmower. To help him understand that there is no such thing as a "free lunch", you decide to charge him for using your lawnmower. You are considering three different options:
 - a) Levying a lump-sum fee of \$100 per day.
 - b) Requiring John to give you a 50% share of his daily profits.
 - c) Renting the lawnmower to John for \$2 per acre.How will John's output and profit be affected by each of these plans?
3. Nicholson 14.8, parts (a), (b), and (c).
4. Suppose that the tobacco market is in long-run equilibrium at a price of \$1.50 per pound, and imagine for sake of argumentation that there is absolutely no government intervention in this market. Also suppose that tobacco farming is characterized by a U-shaped long-run average cost curve. Market price elasticity of demand in this perfectly competitive industry is 1.0.
 - a) Now, suppose that as a part of the recent tobacco lawsuit settlements, the Department of Agriculture implements a program that requires each tobacco farmer to restrict its tobacco output by 10%, and that it permits no new entry into tobacco farming. Show in diagrams each firm's output and the collective effect on the market price of tobacco. Do you think that tobacco farmers would support such a program? Using your diagram, briefly explain why or why not.
 - b) Suppose that instead of requiring each producer to restrict output, the USDA issues operating licenses to tobacco farmers. A lottery is held, and 90% of tobacco farmers get a license to grow tobacco. Obviously the unlucky 10% have to find some other line of business to go into, since they can no longer grow tobacco. Now for the question: Will short-run output fall by 10%? What will happen to the market price of tobacco? Show in a diagram the short-run output and profits of one of the lucky tobacco farmers who was granted a license to grow tobacco.