Economics 110, Section 2 Due: Noon, September 20, 2006
Revised 9/18/06 Name ____________________

Problems – Chapter 3: Supply and Demand

PLEASE SHOW YOUR CALCULATIONS

Note: Answers to 4b, 4c, and the honors option may be submitted as late as Friday noon.

1. Consider the Econoland Corn Market of Section 3.3 (page 64).
   Suppose that 50 new firms with supply function given by equation (3) p 64, eager for profits, decide to enter the industry.
   a. Determine how the increase in the number of firms to 150 will affect the industry supply function. Draw a revised Figure 3.3 showing how the increase in the number of corn farmers affects price and quantity sold and consumer surplus.
   b. Then do the math – calculate the effect on the price, the total quantity sold, and consumer surplus.
   c. Is anyone hurt by the influx of new firms into the industry? Explain.
   d. Suppose that intensified conflict disrupts the supply of petroleum from the Middle East. Further, BP pipelines are shut down in Alaska because of poor maintenance.[1] Explain how and why you would expect these disruptions to affect the corn market and the market for SUVs. [Hint: Complements or substitutes?]

2. Textbook question 8 (page 118): price controls.
   Hints: 8a. The table at the top of page 65 may ease your computations.
   8b How much consumer surplus is generated depends on who gets the scarce commodity. Calculate the consumer surplus if those who value the commodity the most get to buy it. Then calculate the consumer surplus if those who value it the least get the commodity. The true loss must be somewhere between these two boundaries.
   The producers are hurt; so also are those who were willing to pay more than $6 but did not get the commodity after the price cap was imposed. Those who get to buy the commodity gain. If resale is allowed, those who are initially allocated the commodity gain but the commodity is consumed by those who desire it the most (as measured by the almighty dollar).
   For 8c, assume that the less elastic supply curve still goes through point e.

3. Elasticity: Textbook, questions 2, 3, 5 and 9.

   Hint re question 5: First compute $\frac{\partial q}{\partial p}$ and $\frac{\partial q}{\partial y}$.

   [Note from the *Errata* sheet: Change "price" at the end of 9c to "income and price." Also, 9d should refer to Figures 3.23 and 3.24]

4. Back to the original Corn Market of Section 3.3 (page 64).
   a. Suppose that the government, concerned about the plight of the farmers, decides to achieve parity for the farm bloc by supporting the price at $8. Explain the procedure by which the government can raise the price to $8.

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[1] http://www.npr.org/templates/story/story.php?storyId=5626067

Calculate the effect on quantity produced and quantity purchased by consumers.

b. Forget about the price supports – consumers have defeated the farm bloc. And now the government imposes a tax of $8 per bushel of corn. How will this tax affect the price paid by consumers and the quantity of corn produced? How much tax revenue will the government collect? What might the government do in order to increase tax revenue?

c. Forget about the tax. But importers are now buying corn in Europe, transporting it to the United States, and selling all the market will buy at $4 a bushel. How will the influx of cheap foreign corn affect total consumption of corn; how much corn will be imported?

[Hint: Check out Figure 3.21, p 109]

Honors Option: [No partial credit – If you elect to do the Honors Option, you must work on your own without assistance from the course instructor, the TA, or friends.]

1. Determine the Laffer Function for a tax on corn (you found one point on this function in answering question 4b).
2. Answer Question 10* page 120.

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