

ECON 110, Prof. Hogendorn, Spring 2008

## First Midterm Exam

Each part of each question (a, b, c, etc.) is worth 5 points. Make sure to allot your time accordingly. Total of 35 points, -1 for messiness, -2 for extreme messiness.

1. *Shipping*. Higher oil prices are making everything more expensive, including fuel for ocean shipping.

Let  $q$  be tons of freight shipped from Asia to the U.S. and let  $p$  be the price per ton.

- (a) Let us assume that demand for shipping remains unchanged and that the fuel price increase shifts supply to the left. Let both supply and demand be inelastic. Using linear supply and demand, graph the old and new equilibria.
- (b) What was the change in consumer surplus and producer surplus?
- (c) Do you think it is correct to assume that demand did not shift?

2. *Fluff*. Fluff toys are very popular. Originally they sold for \$35 each, but the manufacturer has run out. So now, the only way to get one is on eBay, where the price is \$119 and the quantity is 5100.
- (a) What does the supply curve for Fluff toys look like? Think carefully and write a short justification of your graph.
  - (b) Using a linear demand curve and your supply curve from part (a), show the market equilibrium on eBay. Label the consumer and producer surpluses.
  - (c) Suppose that at equilibrium, the price elasticity of demand on eBay is  $\epsilon = -2$ . How many would people want to buy at the official retail price of \$35?
  - (d) Show what would happen if a government law prohibited sales at prices above the official retail price. Label the changes in producer and consumer surplus under the law. Is there a deadweight loss? (Note: your deadweight loss answer will depend on how you drew the supply curve.)