

University of Wisconsin - Madison
Econ 101 – Spring 2007
Professor Meta Brown

Problem Set 4

Due February 21-23, 2007 in discussion

Please be sure to include (1) your name, (2) your teaching assistant's name, and (3) your section time on your answers. Please staple pages together. Also note that late homework will not be accepted.

1. What will happen to the equilibrium price and quantity in these markets if the following changes occur?
 - a. The cost of wheat, which is used to produce bread, rises. What will happen to the equilibrium price and quantity in the bread market?
 - b. New technology for manufacturing computers lowers the cost of producing a computer. What will happen to the equilibrium price and quantity in the computer market?
 - c. The fall this year has been unusually mild. What will happen to the equilibrium price and quantity in the market for sweatshirts?

2. Nick's demand for ice cream is $Q = 40 - 2P$. The supply of ice cream is $Q = P - 5$.
 - a. Draw the demand and supply curves.
 - b. What are the price and quantity of ice cream traded if Nick is the only buyer?
 - c. Catherine's demand for ice cream is $Q = 20 - P$. What will be the new aggregate demand for Catherine and Nick? Draw the separate demand curves for Nick and Catherine and the market demand curve.
 - d. What is the new equilibrium price and quantity?
 - e. Is Nick better off or worse off?

3. In 1975, the demand and supply curves for natural gas were as follows,
Equation 1: $Q = 2P + 18$
Equation 2: $Q = 60 - 5P$.
 - a. Under regular assumptions, which of the above equations is demand and which is supply?
 - b. What is the free-market price of natural gas?
 - c. Suppose the regulated price of natural gas was \$3. How much would demanders have wanted to buy? Would suppliers have been willing to sell them this amount?
 - d. Due to the weather, the demand increases by 18 units at every price level. What is the new demand curve?
 - e. Find the new free market price of natural gas.

4. Illustrate the following events in a diagram for the market for plasma televisions. In each case, describe whether the change is a shift in demand or supply, or a change in quantity demanded or supplied. Answer can be ambiguous
- a. The Superbowl will be played this coming weekend.
 - b. Price of xenon and neon gases, which are needed to emit light on a plasma TV, rises.
 - c. Sony decreases the price of its LCD series (non-plasma) televisions.
 - d. Gas prices plummet, decreasing the price of shipping electronics from factories to sellers.
 - e. A consumer report is published that says plasma TVs have lifetime display time of no more than 10,000 hours, instead of the 60,000 stated by manufacturers.
 - f. Events in part c and d occur simultaneously.
 - g. Events in part b and c occur simultaneously.