

Department of Economics
University of Wisconsin-La Crosse
ECON110 Principles of Economics
Lisa Giddings

Homework 2 Due October 6th

1. Suppose that the demand for scanners on the UWL campus can be represented by the demand function,
 $Q = 2000 - 10P$. Suppose the supply can be represented by the supply function, $Q = 800 + 2P$.
 - a. Solve for the equilibrium price and quantity for scanners using algebra.
 - b. Graph the supply and demand curves. Label the graph carefully indicating the equilibrium point.

2. Suppose you read the following text in a newspaper article:

“Wet conditions across the mid-western United States has led to a relatively small pumpkin crop, causing the supply of pumpkins to fall. The decrease in supply will raise the price. The higher price will decrease demand, and the decrease in demand will decrease the price. The overall effect on price and quantity of pumpkins will depend on the relative shifts in supply and demand.”

Use supply and demand analysis to analyze the truth of this statement.

3. According to an article in the September, 2007 issue of *Minnesota Monthly*, The percentage increase in tuition at the University of Minnesota between 1971 (\$522 annually) and 1997 (\$9,432 annually) is 1,707. This is not unusual. College tuition in the U.S. has increased at rates far faster than general inflation, yet applications to colleges continues to rise. Is this a violation of the law of demand? Why or why not? Illustrate your answer with a graph.

4. Define and provide real world examples for each of the following. Your definitions may be based on those found in your textbook, but your examples may not.
 - a. an inferior good
 - b. Two goods that are substitutes for each other.
 - c. A competitive market.

5. Chapter 4, number 7 page 86 (in the fourth edition). Using supply-and-demand diagrams, show the effect of the following events on the market for sweatshirts (i.e. graph, identify and discuss with one sentence the effect on quantity supplied, quantity demanded and price).
 - a. A hurricane in South Carolina damages the cotton crop.
 - b. The price of leather jackets falls.
 - c. All colleges require morning exercise in appropriate attire.
 - d. New knitting machines are invented.

6. Game Stop Corporation is an American video game and entertainment software retailer. According to Wikipedia, the corporation operates over 6,500 retail stores around the world. In the fiscal year ending in May of 2010, the company earned 48.1% of its profits from the sale of used video products. Using a supply and demand graph, analyze the effects of the sale of used video games on the (non-pre-owned) video game market.

7. The *New York Times* reported that subway ridership declined after a fare increase: “There were nearly four million fewer riders in December 1995, the first full month after the price of a token increased 25 cents to \$1.50, than in the previous December, a 4.3 percent decline.”

- a. Use this data to estimate the price elasticity of demand for subway rides
 - b. According to your estimate, what happens to the Transit Authority's revenue when the fare rises?

8. Consider public policy aimed at smoking.
 - a. Studies indicate that the price elasticity of demand for cigarettes is about 0.4. If a pack of cigarettes currently costs \$2 and the government wants to reduce smoking by 20%, by how much should it increase the price?
 - b. If the government permanently increases the price of cigarettes, will the policy have a larger effect on smoking 1 year from now or 5 years from now?
 - c. Studies also find that teenagers have a higher price elasticity of demand than do adults. Why might this be true?

9. A study done on rent de-control in Washington DC (by, in part, yours truly! See this link if you're interested: <http://www.nmhc.org/Content/ServeFile.cfm?FileID=117>) found that the average prices of rent would not change if the rent control law was removed. Show graphically what is going on in this market.

10. Consider the following situation: On campus, there are long lines to obtain a fixed number of campus parking permits priced at \$100 per year. Many students that want a permit are turned away. Use a demand and supply model to illustrate this situation for campus parking permits. Label clearly. What can be done to solve this problem?