Review Problems for Test #1

This review sheet is meant to give you an idea of the structure of the test, not to be a full review of the relevant material. The test is open-notes. We will use blue books. Bring a calculator if you like, but no computers or phones allowed. In order to get full credit, show the calculations used to arrive at your answers. Draw and label diagrams clearly.

A. Answer True, False, or Uncertain, and briefly explain your answer.

   (1) The firm's short-run supply curve is its average cost curve above average fixed cost.

   (2) Unless the surplus, or gain from trade is divided equally between buyer and seller, an exchange cannot be considered to be mutually beneficial.

   (3) A price floor on apartment rents will create a surplus of rental housing.

   (4) Suppose that demand is perfectly elastic. If the supply curve shifts to the left, then price will increase, but quantity will remain constant.

B. Short answers.

   (1) Draw two indifference curves for the case when consumption of one good generates no utility at all (e.g., pepperoni and mushrooms on a pizza for someone who likes pepperoni but doesn't care whether or not there are mushrooms on the pizza).

   (2) Assuming that tennis rackets and tennis balls are complements, what happens in the market for tennis balls if tennis rackets become more expensive to produce?

   (3) Suppose the own price elasticity of supply is 1. If price rises by 25%, how does the quantity supplied change?

   (4) Give an example of a good which is in perfectly elastic supply.

C. A short problem.

   (1) Natalie has $30 to spend. She only buys pizza (Z) and cokes (C). Pizzas cost $6 each; cokes cost $1 each. Graph her budget constraint.

   (2) If Natalie's utility function is $U = Z + C$, what is her optimal amount to buy of pizzas?

D. A somewhat longer problem.

   A firm has the production function Q = lnK + 2lnL,
   where K = units of capital and L = units of labor.
   The wage is 1 and the rental rate of capital is 2.
   The price of output is 6 and the firm has no fixed costs.

   (1) What is the marginal product of labor?

   (2) What is the marginal rate of technical substitution?

   (3) At the firm's optimal production point, what is the ratio of labor to capital?

   (4) What is the firm's profit function?

E. And another longer problem.

   A market is characterized by $Q_D = 2000 - 50P$ and $Q_S = 450P - 500$

   (1) What are the equilibrium price and quantity?

   (2) If a tax is placed on the market of 2 per unit sold, what are the new price
       and quantity?

   (3) How much deadweight loss is caused by the tax?

   (4) If, instead of a tax, a price ceiling of 4.80 is placed on the market, what are the new
       price and quantity?

   (5) How much deadweight loss is caused by the price ceiling?

   (6) If you wanted to reduce the quantity traded in a market, which of these two policies
       do you prefer, a tax or a price ceiling? Explain your choice.