Boston College

Problem Set 3, Fall 2012

EC 131 - Principles of Microeconomics

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Answer the questions in the spaces provided on the question sheets. If you run out of room for an answer, continue on the back of the page. Be succinct. Longer answers don't increase your chance of being right, but increase your chance of saying something wrong. **Show how you got your answers in mathematical questions**

Name: ______________________________

1. Say whether the propositions are True or False. If they are False, justify.

   (a) Demand is more price-elastic in the long-run

   (b) If price-elasticity of demand is always 1, an increase in 1% in price leads to a 1% increase in revenue

   (c) Minimum wage policies lead to unemployment.

2. Consider the following pairs of goods. For which of the two goods would you expect the demand to be more price elastic? Why?
   (a) water or diamonds
   (b) insulin or nasal decongestant spray
   (c) food in general or breakfast cereal
   (d) gasoline over the course of a week or gasoline over the course of a year
   (e) personal computers or Acer personal computers

3. With the aid of the graph shown, answer the following questions.

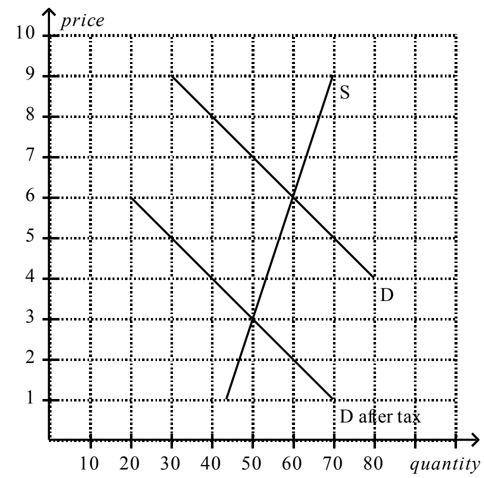

Figure 1: Taxes and market equilibrium

(a) What was the equilibrium price in this market before the tax?

(b) What is the amount of the tax?

(c) How much of the tax will the buyers pay?

(d) How much of the tax will the sellers pay?

(e) How much will the buyer pay for the product after the tax is imposed?

(f) How much will the seller receive after the tax is imposed?

(g) As a result of the tax, what has happened to the level of market activity?

4. Consider the market for rice. Let the supply curve be given by the equation (quantities are tons of rice):

$$Q_s = 2P$$

and demand be:

$$Q_d = 500 - 3P$$

(a) Find the market equilibrium price P^* and quantity Q^*

Suppose now that the government sets a **price floor for rice of $120 per ton of rice**.

(b) What are the quantity demanded and the quantity supplied with the price floor?

What is the excess demand (or excess supply) in this economy?

(c) Draw a graph showing the demand and supply curves, clearly indicating the intercepts, its values and the market equilibrium. Trace a line at the price floor value. Indicate the quantity demanded, quantity supplied and excess demand (or excess supply).

5. Take the same market in question 4 (without price controls) and suppose that the government starts taxing the sale of rice at the rate of $20 per ton sold, to be paid by the seller.

   (a) Find the tax equilibrium (that is, the quantity sold Q^T and the prices paid by the consumers (P_c^*) and by the sellers (P_s^*).

(b) Which part of the market will pay the bigger share of the tax burden? The consumers or the sellers? Justify.

(c) Base only on your answer for the last question, what can you say about the relative elasticities of supply and demand for the rice market?

 End of problem set.