SAMPLE FIRST MIDTERM EXAMINATION

PART I: SHORT ANSWER   [36 POINTS TOTAL]

Answer all questions. Be sure to explain your answers and to draw diagrams where they are appropriate.

1. Consider the PPC for investment goods and consumption goods (with consumption goods on the horizontal axis and investment goods on the vertical axis). What does the PPC represent? What does the slope of the PPC at a point show us? **[9 points]**

2. What do we mean by the "income effect" of a price change? For a typical good, when the price of the good falls, does the income effect tend to increase the quantity demanded or to decrease it? **[9 points]**

3. If the government imposes a per unit tax on a good produced in a competitive market, will the after-tax price received by sellers and the after-tax price paid by buyers depend on who is physically responsible for paying the tax to the government? **[9 points]**

4. If there are no positive or negative externalities associated with a good, at what quantity of production and consumption will total social surplus be largest? **[9 points]**

PART II: PROBLEMS   [40 POINTS TOTAL]

Answer both parts of each question. Be sure to explain your answers and to draw diagrams where they are appropriate.

5. It is reasonable to think of the egg industry as perfectly competitive. Suppose that it is initially in long-run equilibrium. But then there are news reports of poor treatment of egg-laying hens. The reports lead to the enactment of new regulations regarding the treatment of hens, such as requirements that they be given more expensive feed and be monitored more carefully. The reports also lead some consumers to get less enjoyment from consuming eggs.

a. How would you expect these changes to affect the supply and/or demand curves for eggs in the short run? Will the price of eggs rise, fall, or remain unchanged, or is it not possible to tell? What about the quantity of eggs? **[10 points]**

b. Would you expect these changes to lead to entry, exit, or no change in the number of firms in this industry in the long run (or is it not possible to tell)? **[10 points]**

6. Fresh fruits and vegetables, such as strawberries, are an essential part of a healthy diet. However, because they tend to be expensive, they are often unaffordable for poor households.

a. Suppose the government tries to deal with the fact that poor households often cannot afford strawberries by putting on a binding price ceiling. Discuss what this policy will do to the price, quantity bought and sold, and total (private) surplus in this market. (You should assume that the market for strawberries is well functioning, with lots of competition and no externalities.) **[10 points]**

b. Show how the government could use a subsidy (physically paid to producers) to bring about the same price reduction achieved with a price ceiling. Without doing the full welfare analysis, discuss some of the pros and cons of this alternative approach. **[10 points]**

## PART III: MULTIPLE CHOICE   [24 POINTS TOTAL]

Circle the ***best*** answer to each question. Each question is worth 2 points.

7. A household's budget constraint is a straight line because:
   a. the household's income can be spent on either good.
   b. as a household consumes more of good, the marginal utility they get from consuming the good falls.
   c. the quantities of the goods the household buys do not affect market prices.
   d. the household follows the rational spending rule, so that the marginal utility from an additional dollar of spending on either good is the same.

8. If lemons and limes are substitutes, a rise in the price of limes because of a poor harvest will cause:
   a. shifts of both the demand curve for limes and the demand curve for lemons.
   b. movements along both the demand curve for limes and the demand curve for lemons.
   c. a shift of the demand curve for limes, but a movement along the demand curve for lemons.
   d. a movement along the demand curve for limes, but a shift of the demand curve for lemons.

9. If the supply curve for a good shifts out, total revenues received by sellers will rise:
   a. if demand is elastic in the relevant range.
   b. if demand is inelastic in the relevant range.
   c. always.
   d. never.

10. In "The Misallocation of Housing under Rent Control," Edward Glaeser and Erzo Luttmer attempt to measure the misallocation of housing under rent control by:
   a. conducting surveys on the amount of excess housing demand in cities with and without rent control.
   b. measuring the amount of effort households expend trying to get a rent-controlled apartment.

c. looking at the difference between the number of rooms a household has and what one would predict based on its demographic characteristics in cities both with and without rent control.

d. all of the above.

11. A monopolist will respond in the short run to an increase in its fixed costs by:

  a. raising its price to keep its profits unchanged.

  b. raising the quantity it sells at the price it was charging before to keep its profits unchanged.

  c. increasing both its price and the quantity it sells.

  d. changing neither its price nor the quantity it sells.

The diagram to the right shows the effects of imposing a per unit tax (physically collected from the buyer) in a competitive market. ***Questions 12 and 13 are about this market AFTER the imposition of the tax.***
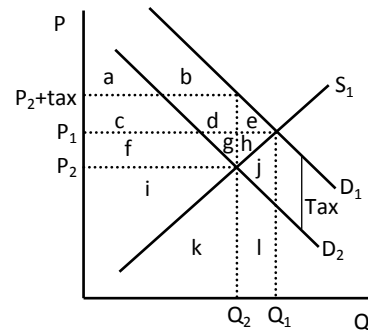
12. Producer surplus is:

  a. i.

  b. i+k.

  c. i+k+l.

  d. c+d+e+f+g+h+i.

  e. c+d+e+f+g+h+i+j.

13. Government revenue is:

  a. c+d.

  b. c+d+e.

  c. c+d+f+g.

  d. c+d+e+f+g+h.

  e. b+d+g.

  f. b+d+e+g+h+j.

  g. both answer (**c**) and answer (**e**) are correct.

  h. both answer (**d**) and answer (**f**) are correct.

14. In one hour, Juliet can write 2 sonnets or sing 3 ballads; Romeo can write 1 sonnet or sing 1 ballad. Then:

  a. Juliet has an absolute advantage in both activities, a comparative disadvantage in writing sonnets, and a comparative advantage in singing ballads.

  b. Juliet has an absolute advantage in both activities, a comparative advantage in writing sonnets, and a comparative disadvantage in singing ballads.

  c. Juliet has an absolute disadvantage in both activities, a comparative disadvantage in writing sonnets, and a comparative advantage in singing ballads.

  d. Juliet has an absolute disadvantage in both activities, a comparative advantage in writing sonnets, and a comparative disadvantage in singing ballads.

15. The condition for a firm to be earning zero profits is:

  a. marginal revenue equals marginal cost.

  b. average revenue equals price.

  c. average total cost equals price.

  d. the difference between the firm's revenues and its accounting costs is zero.

  e. the difference between the firm's revenues and the opportunity costs of all of its inputs is zero.

  f. (c) and (e).

  g. (a), (b), and (d).

  h. (a), (b), and (e).

16. If a household is consuming two goods (good a and good b) and $MU_a/P_a > MU_b/P_b$:

  a. the household could increase its utility by spending slightly more on good a and slightly less on good b.

  b. the household could increase its utility by spending slightly less on good a and slightly more on good b.

  c. we can deduce that good a has a negative externality.

  d. we can deduce that good b has a negative externality.

17. In the absence of specialization, the PPC:

  a. is a straight line.

  b. is bowed in.

  c. is bowed out.

  d. does not exist.

18. For a good that has a positive externality and that is bought and sold in a competitive market, deadweight loss is the area in the diagram to the right corresponding to:

  a. b+d+g.

  b. b+d+e+g+h+i+k.

  c. e+h.

  d. e+h+i+k.

  e. i+k.

  f. m.