

Please note that last semester, I did not get through the Monopoly chapter.

Name _____

Clearly label all graphs for full credit and please write legibly; I cannot grade what I cannot read.

Economics 3550.001
Intermediate Microeconomics
Professor Rous
Final Exam
December 11, 2002

The point value of each question is in parentheses.

1. (5) A recent newspaper article cited a public health report that expressed surprise that increased use of bicycle helmets seemed to lead to an increase in head injuries. Does this finding surprise you? Explain the economics of the situation.

2. (5) Suppose in 2002 the absolute price of bread is \$2 per loaf and the price of wine is \$6 per bottle. In 2003 the absolute price of bread is \$4 and the absolute price of wine is \$8 per bottle. The relative price of bread has _____ and the relative price of wine has _____.

- a. risen; risen
- b. risen; fallen
- c. fallen; risen
- d. fallen; fallen

3. (5) Pat and Chris are roommates. It takes Pat 4 hours to do a load of laundry and 2 hours to make a meal. It takes Chris 1 hour to do a load of laundry and 1 hour to make a meal.

True/False and Explain. Because Chris has a lower absolute cost of producing clean clothes and meals, there is no possibility that he could gain from trade. (you do not need to how much he would benefit, but describe what he and Pat might want to do).

4. (5) For the last several months, Jill has been consuming tacos and hamburgers. Her income is \$20 per week, tacos sell for \$2 each and hamburgers sell for \$2 each. She now consumes 7.5 Tacos.

Now, suppose the price of tacos drops to \$1 each and the price of hamburgers rises to \$5 each while her income remains at \$20. If the price change has made her happier, is she now consuming more tacos or hamburgers? Explain how you know (you will need an indifference curve graph).

5. (5) For a good to be a Giffen good, the:
- income effect and substitution effect must move consumption in the same direction and the income effect must be larger than the substitution effect.
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- 6.(5) The daily demand for Hamburger World's hamburgers can be described with the following demand curve: $P = 10 - .05Q_d$. The price of hamburgers is currently \$2.00. What is the price elasticity of demand?

7. (5) Describe the “Factor Price Effect.” How might it affect an industry’s long run supply curve?
8. (5) In the long run, a tax placed on a perfectly competitive constant cost industry will
- a. increase the price consumers pay for the good by the amount of the tax.
 - b. increase the price consumers pay by an amount less than the price of the good.
 - c. not affect the price consumers pay.
 - d. cause all firms to exit the industry since consumers can easily find substitutes elsewhere.

9. Sally buys two goods, Hula-Hoops and Shampoo. Her weekly income is \$200. The price of Hula-Hoops is \$2 and the price of Shampoo is \$3.
- a.(6) Draw Sally's budget constraint putting Hoola-Hoops on the horizontal axis. At first she consumes 40 Hula-Hoops
- Draw in the appropriate indifference curve.
 - How much shampoo does she consume?

Let the price of Hula-Hoops rise to \$4. Demonstrate the income and substitution effect. Have your graph reflect the fact that Hula-Hoops are inferior goods.

- b.(3) Verbally describe how your graph would differ if Hula-hoops were a normal good.
- c.(3) Now draw a demand curve that reflects the information from the above analysis in part a above.

Maybe add this: Explain what an individual who finds him/her self w/ $MRS > P_x/P_y$ should do to maximize utility. Include an explanation of how changing their consumption bundle increases utility.

10. Amalgamated SteelWorks has the following production function:

$$Q = (.25 * K * L)^{1/2} \quad \text{assume } K = 400 \text{ in the short run.}$$

The wage rate is 60 and the rental rate on capital is 200.

In the short run:

- a.(3) What is the marginal product of labor?
- b.(3) What is the average variable cost function?

- 11.(5) AAA Ball Bearing Company (AAABBC) produces 140,000 ball bearings per week using two inputs, capital, K, and labor, L. AAABBC rents capital at a price of \$4,000 per week, and the workers get paid \$500 per week.

AAABBC has been producing with 20 units of capital and 10 laborers.

With this input mix, if the marginal product of labor is 1500 and the marginal product of capital is 8,000, is AAABBC producing on its expansion path? **Explain how you know.**

If they are not, should they, in the long run, become more capital intensive (ore K and less L) or more labor intensive (more L and less K)? **Explain how you know.**

- 12.(8) For a perfectly competitive firm, explain the difference between the *shut down* price and the *break-even* price. (Although not necessary, it may be helpful to use some graphs.) Include an explanation of how prices above, at, or below shut down price and break-even price determine or affect firms behavior in the short and long run.

maybe add: Verbally and graphically explain why a firm should shut down in the SR if $\text{profit} < -FC$

13. a.(8) Christmas trees are sold in a perfectly competitive, constant cost industry. Suppose a new law requires that sellers buy a license to sell the trees and the license costs \$500 per year. Verbally and graphically explain what effect this new law will have on the Christmas tree market in the short run and long run?

b.(3) Suppose the Mayor is mad at the owner of “Kris Kringle’s Happy Trees” and makes that one tree seller pay \$1000 for the license (all other sellers still pay \$500). What is likely to happen to Kris Kringle’s Happy Trees in the short and long run and what will happen to the market (you don’t need a graph here, just explain verbally).

14. The perfectly competitive U.S. Wheat market can be characterized by the following supply and demand functions (where quantity is measured in bushels per day):

$$S: P = 2 + .001Q_s$$

$$D: P = 8 - .002Q_d$$

- a.(4) What is the equilibrium Price and Quantity?
- b.(8) Suppose the government decides to help out the poor wheat farmers by giving them a subsidy of \$1 per bushel produced. **Verbally and graphically** explain the effect of the subsidy. In your answer, address the following issues:
- How much wheat will now be produced?
 - How much will the subsidy cost?
 - Demonstrate whether the subsidy passes the efficiency criterion?

Answer ONE of the following two questions based on your reading of Hazlitt. Do not answer both!

15. (6) Evaluate the following statement: “Technology that lowers the cost of producing a good by replacing workers with machines only succeeds in making the bosses rich and workers poor by increasing unemployment and lowering workers standard of living.”

16. (6) One of the problems that many developing countries face is that the majority of educated people are employed by the government in jobs that produce little benefit for society. The situation is defended with the argument that the incomes these workers earn helps to fuel the economy and that there are few high paying jobs in the private sector. What would Hazlitt say about this situation.