

EXAM 2

Principles of Economics EC 110-001
July 4, 2007

Name: _____

by writing my name i swear by the honor code

Read all of the following information before starting the Exam:

- Show all work, clearly and in order, if you want to get full credit. I reserve the right to take off points if I cannot see how you arrived at your answer (even if your final answer is correct).
- Justify your answers algebraically whenever possible to ensure full credit. When you do use your calculator, sketch all relevant graphs and explain all relevant mathematics.
- Circle or otherwise indicate your final answers.
- Please keep your written answers brief; be clear and to the point. I will take points off for rambling and for incorrect or irrelevant statements.
- This assignment has 6 problems and is worth 100 points. It is your responsibility to make sure that you have all of the answers!
- This exam is 25% of your final grade.
- Good luck!

1. (*36 points*) PROBLEM 1: This question has 15 parts. Answer any **12**. Briefly define the following economic terms:

a. (*3 pts*) Laffer Curve

b. (*3 pts*) Explicit versus Implicit Costs

c. (*3 pts*) Economic versus Accounting Profit

d. (*3 pts*) Diminishing Marginal Product

e. (*3 pts*) Efficient Scale

f. (3 pts) Economies versus Diseconomies of Scale

g. (3 pts) Sunk cost

h. (3 pts) Natural Monopoly

i. (3 pts) Price Discrimination

j. (3 pts) Inefficiency of Monopoly

k. (3 pts) Collusion

l. (3 pts) Cartel

m. (3 pts) Nash equilibrium

n. (3 pts) Dominant strategy

o. (3 pts) Resale Price Maintenance

2. (12 points) PROBLEM 2: Discuss *briefly* any **3** of the following 4 topics. **Use graphs to indicate your main points.**

a. (4 pts) PART A: How do the elasticities of supply and demand affect the deadweight loss of taxation?

b. (4 pts) PART B: Discuss a *competitive* firm's decision to shut-down and/or exit a market.

c. (4 pts) PART C: Discuss the shape of a *competitive market's* long-run supply curve; evaluate the short-run impact of any demand shocks.

d. (4 pts) PART D: Draw the demand, marginal revenue, and marginal cost curves for a monopolist. What's the relationship among P , MR , AR , and MC ?

3. (16 points) PROBLEM 3: Mr. Powers loves Belgium chocolate. The table below reflects the value Mr. Powers places on each chocolate he eats:

Value of	1 st chocolate	2 nd chocolate	3 rd chocolate	4 th chocolate	5 th chocolate	6 th chocolate
Price (\$)	2.30	2.10	1.90	1.70	1.50	1.30

a. (4 pts) PART A: Use the information to construct Mr. Powers's demand curve for chocolate. If the price of chocolate is \$1.60, how many chocolate bars will Mr. Powers buy? Find Mr. Powers's consumer surplus when the price is \$1.60.

b. (4 pts) PART B: Overall, the supply and demand for chocolate are described by: $Q^S = 20P - 5$ and $Q^D = 51 - 8P$. Graph the supply and the demand curve. (Note: Clearly mark the intersection points of the two curves with the vertical axis). What is the equilibrium price and quantity?

c. (4 pts) PART C: Calculate the consumer surplus, producer surplus, and total surplus at the equilibrium. If Dr. Evil (who hates chocolate) seized absolute control of this economy and banned Belgium chocolate, who would bear the larger burden - the buyers or consumers of chocolate?

d. (4 pts) PART D: Suppose that a tax T is placed on buyers, so that the new demand equation is: $Q^D = 51 - (8P + T)$. Solve for the new equilibrium. If $T = \$1.40$ what is government's revenue in this case?

4. (12 points) PROBLEM 4: The following table presents cost and revenue information for John's Vineyard:

Costs			Revenues				
Quantity Produced	Total Cost	Marginal Cost	Quantity Demanded	Price	Total Revenue	Marginal Revenue	Profit
0	0	-	0	80		-	
1	50		1	80			
2	102		2	80			
3	157		3	80			
4	217		4	80			
5	285		5	80			
6	365		6	80			
7	462		7	80			
8	582		8	80			

a. (4 pts) PART A: Calculate total revenue and profit for each quantity. What is the total revenue from selling 7 units?

b. (4 pts) PART B: Calculate marginal revenue and marginal cost for each quantity. If you were to draw these two curves, where do you think they would cross? How does this relate to Part B?

c. (4 pts) PART C: Can you tell whether this firm is in a competitive industry? If so, can you tell whether the industry is in a long-run equilibrium?

5. (12 points) PROBLEM 5: Depeche Way have just finished recording their latest album. Their record company's marketing department determines that the demand for the album is as follows (note that the record company has a monopoly position by being the only seller of the album):

Price	Album units (thousands)	Total Revenue	Marginal Revenue	Total Cost	Profit
\$24	10				
22	20				
20	30				
18	40				
16	50				
14	60				

The company can produce the album with no fixed cost and a variable cost of \$5 per album.

a. (4 pts) PART A: Find total and marginal revenue for every quantity.

b. (4 pts) PART B: Fill in the Total Cost and Profit columns. What quantity would maximize profit? What would the price be? What would the profit be?

c. (4 pts) PART C: If you were Depeche Way's agent, what recording fee would you advise Depeche Way to demand from the record company? Why?

6. (12 points) **PROBLEM 6:** Consider trade relations between the United States and Mexico. Assume that the leaders of the two countries believe the payoffs to alternative trade policies are as follows:

		US's decision	
		Low Tariffs	High Tariffs
Mexico's Decision	Low Tariffs	(25,25)	(10,30)
Mexico's Decision	High Tariffs	(30,10)	(20,20)

The payoffs are in billions of \$, and each pair should be read as (Mexico's payoff, US's payoff).

a. (4 pts) **PART A:** What is the dominant strategy for the United States? For Mexico? Show your work.

b. (4 pts) **PART B:** What is the Nash equilibrium for trade policy?

c. (4 pts) **PART C:** In 1993, the US congress ratified the North American Free Trade Agreement (NAFTA), in which the US and Mexico agreed to reduce trade barriers simultaneously. Do the perceived payoffs shown in this table justify this approach to trade policy?

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