

FINAL EXAM

Principles of Economics EC 110-001
July 12, 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 7 problems and is worth 100 points. It is your responsibility to make sure that you have all of the answers!
- This exam is 30% of your final grade.
- Good luck!

1. (*24 points*) PROBLEM 1: This question has 15 parts. Answer any **12**. Briefly define the following economic terms:

a. (*2 pts*) Absolute vs. Comparative Advantage

b. (*2 pts*) Efficiency and Equity

c. (*2 pts*) Economic vs. Accounting Profit

d. (*2 pts*) Surplus vs. Shortage

e. (*2 pts*) Efficient Scale

f. (2 pts) Economies vs. Diseconomies of Scale

g. (2 pts) Sunk cost

h. (2 pts) Giffen good

i. (2 pts) Price Discrimination

j. (2 pts) Marginal rate of substitution

k. (2 pts) Income effect

l. (2 pts) Substitution effect

m. (2 pts) Product differentiation

n. (2 pts) Dominant strategy

o. (2 pts) Predatory Pricing

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

a. (4 pts) PART A: Compare and contrast monopolistic versus perfect competition

b. (4 pts) PART B: Compare and contrast monopoly versus oligopoly markets

c. (4 pts) PART C: Given a consumer's limited income and her preference for both jeans and bathing suits, show her optimal consumption point. How would you interpret the slope of the budget constraint? How about the slope of a tangent at a point on the indifference curve? What has to be true at the optimal consumption point between the two slopes?

d. (4 pts) PART D: Assume that our consumer experiences an income increase. How would your new graph look if we assumed bathing suits are an inferior good? Normal good?

3. (12 points) PROBLEM 3: Suppose that in a year an American worker can produce 80 shirts or 25 computers, while a Chinese worker can produce 100 shirts or 10 computers.

a. (3 pts) PART A: Graph the production possibilities frontier for the two countries.

b. (3 pts) PART B: What is the opportunity cost of a shirt for an American? Of a computer? What is the opportunity cost of a shirt for a Chinese? Of a computer?

c. (3 pts) PART C: Which worker has an absolute advantage in producing shirts? In producing computers? Which worker has a comparative advantage in producing shirts? In producing computers?

d. (3 pts) PART D: Will they both be better off if they decided to trade with each other? If yes, how will that come about? (Note: No numerical computations required).

4. (16 points) PROBLEM 4: Refer to the table below to answer part A of this problem:

Seller	Dale	Jill	Denise	Catherine	Jackson
Cost (\$)	1,500	1,200	1,000	750	500

a. (4 pts) PART A: Use the information to construct this market's supply curve. If the market price is \$1,100, what is the producer surplus in this market?

b. (4 pts) PART B: Overall, the supply and demand are described by: $Q^S = 15P - 1800$ and $Q^D = 9000 - 3P$. Approximately 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 an evil ruler like Dr. Evil seized absolute control and outlawed this economy, who would bear the larger burden - the buyers or consumers?

d. (4 pts) PART D: Suppose that a tax T is placed on buyers, so that the new demand equation is: $Q^D = 9000 - (3P + T)$. Solve for the new equilibrium. If $T = \$360$ what is government's revenue in this case?

5. (12 points) PROBLEM 5: The following table presents cost and revenue information for Dreher's Designer Shirt Company:

Costs			Revenues				
Quantity Produced	Total Cost	Marginal Cost	Quantity Demanded	Price	Total Revenue	Marginal Revenue	Profit
0	100	-	0	170		-	
1	140		1	160			
2	184		2	150			
3	230		3	140			
4	280		4	130			
5	335		5	120			
6	395		6	110			
7	475		7	100			
8	565		8	90			

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

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 A?

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?

6. (12 points) **PROBLEM 6:** (Monopolistic Competition Problem) The following table presents cost and revenue information for Traci's Hairstyling (i.e., she is one salon among many in the market for hairstyling):

Costs			Revenues				
Quantity Produced	Total Cost	Marginal Cost	Quantity Demanded	Price	Total Revenue	Marginal Revenue	Profit
0	20	-	0	55		-	
1	25		1	50			
2	31		2	45			
3	38		3	40			
4	46		4	35			
5	55		5	30			
6	65		6	25			
7	76		7	20			
8	88		8	15			

a. (4 pts) **PART A:** Calculate total revenue and profit for each quantity. What are the profit-maximizing output and price?

b. (4 pts) **PART B:** Calculate marginal revenue and marginal cost for each quantity. Given the cost and revenue data, is Traci's in a long-run equilibrium?

c. (4 pts) **PART C:** If the government required Traci's to produce at the efficient scale of output, how many hair treatments would Traci's sell? (Hint: Round the numbers to see the results better). What is the maximum profit Traci's could earn? Who would be better-off/worse-off in this case: Traci's, its customers or no one?

7. (12 points) PROBLEM 7: This table shows a game played between two players, A and B. The payoffs are given in the table as (Payoff to A, Payoff to B).

		B's decision	B's decision	B's decision
		Left	Center	Right
A's Decision	Up	(4,2)	(2,5)	(3,3)
A's Decision	Middle	(3,1)	(5,3)	(5,2)
A's Decision	Down	(1,3)	(4,4)	(6,1)

(Hint: The approach is the same as the one for a game with only two possible choices.)

a. (4 pts) PART A: Does player A have a dominant strategy? If yes, which one is it? Show your work.

b. (4 pts) PART B: Does player B have a dominant strategy? If yes, which one is it? Show your work.

c. (4 pts) PART C: Which is the Nash equilibrium of this game?

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