

Write your name on the cover of the test booklet and nowhere else. Enclose this sheet with the booklet. Failure to follow these directions will cost you 1 point. The test has 240 points (to be scaled down to 200 points) and is scheduled to take 120 minutes. Therefore, expect to spend 1 minute for every 2 points. For example, a 12-point question should take 6 minutes. I cannot give extra time because some students have a class after your class.

1) (10 points) Answer EITHER Part A OR Part B.

A) We concluded that two types of industries, perfectly competitive and monopolistically competitive, will have zero profits in the long-run. What does that mean about accounting profits? BRIEFLY explain your logic.

B) What can a firm do to signal that an experience good is high quality. BRIEFLY explain how that would send the signal.

2) (10 points) Answer EITHER Part A OR Part B.

A) Nancy Pelosi, when discussing her opposition Trump's proposed border wall actually used terminology from economics when she said that the money for the wall could be used for many things like improving our schools. What terminology did she use? Explain what she meant by that. (It surprised me that any politician knows any terminology from microeconomics other than supply and demand.)

B) Suppose a student answered a question about the opportunity costs of going to a two hour movie with, "I could have spent two hours studying for an exam, two hours playing video games, or two hours cleaning my room, and I had to pay for gas and the ticket." What is wrong with that answer? Explain your logic.

3) (12 points) Answer EITHER Part A OR Part B.

A) What number would you expect  $E_p$  would be for A & W brand root beer? Explain your logic.

B) What number would you expect for the income elasticity for a Rolls Royce? Explain your logic.

4) (12 points) Answer EITHER Part A OR Part B.

A) Draw a PPF for toast and jam. Find a point where the opportunity costs of jam is 2 slices of toast. Explain how you know it is 2 slices of toast.

B) In "Last Hour of The Last Day of Work", Less Than Jake sings, "So when ambition turns into competition, I'll never be the better man." What does the Law of comparative advantage say about that? Explain your logic.

5) (12 points) Answer EITHER Part A OR Part B.

A) Why does  $MPL/P_L = MPK/P_K$  give the firm the best combination of capital and labor? ( $P_L$  is also known as  $w$  and  $P_K$  is also known as  $r$ .)

B) Why don't consumers consume products until  $MU_X = MU_Y$ ?

6) (14 points) Answer EITHER Part A OR Part B.

A) Suppose you were stupid enough to play the lottery and won \$1 million. You decide to take it over 20 years. So, ignoring taxes, you will earn \$50,000 per year. ( $20 * \$50,000 = \$1$  million.) Set up the calculation which will determine the present value of that money. **Without doing the calculations**, explain how you know that the answer will be less than \$1 million.

B) When I got my solar panels, the firm predicted that I would save \$1500 a year for at least 20 years. Suppose that I do save that amount and the panels die after 20 years. Set up the calculation which will find the present value of the total savings. **Without doing the calculations**, explain how you know that the answer will be less than \$30,000. ( $\$1500 \times 20 = \$30,000$ ).

7) (16 points) Answer EITHER Part A OR Part B.

A) Draw the supply and demand for baseball bats. Illustrate the effect of a decrease in the price of wood flooring. Explain why the curve(s) moved as drawn. What happens to the price and quantity of baseball bats?

B) Draw the supply and demand for Burger King's Whoppers. Illustrate the effect of a decrease in the price of beef. Explain why the curve(s) moved as drawn. What happens to the price and quantity of Whoppers?

8) (16 points) Draw the labor supply and demand for an industry. Do NOT worry about the firm's supply and demand. Illustrate the effects of EITHER the event in Part A OR the event in Part B. Explain why the curve(s) moved as drawn. What happens to the amount of labor hired and the wage paid?

A) The amount of capital in the industry is increased.

B) A company producing a different product, but hires workers with similar skills, opens a factory near by.

9) (16 points) For ONE of the following, determine which two rows are the only rows which can be used. Explain how you found them. Then do the calculation requested, showing all work. What does that number tell you about hats and/or rings? State how you know.

A)  $E_{XY}$  using arc elasticity formula

B) Own-price elasticity using the point formula

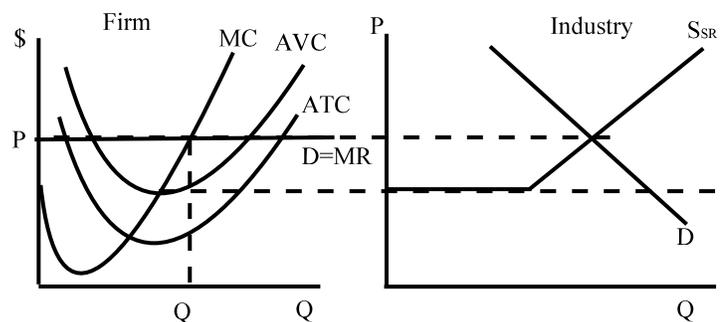
$P_{\text{hats}}$	$P_{\text{rings}}$	Income	$Q_{\text{hats}}$
\$3/lb	\$8/lb	\$50	80
\$6/lb	\$12/lb	\$150	80
\$6/lb	\$8/lb	\$150	100
\$3/lb	\$8/lb	\$150	120

10) (18 points) Answer EITHER Part A OR Part B.

A) Explain in general terms why increasing a tax rate could result in less tax revenue. Is this result more likely for a product with an elastic demand or an inelastic demand? Explain your logic. (Hint: How does the elasticity relate to the other part of the tax revenue calculation?)

B) Suppose we had the government or the market deciding whether a project should be done. Which method allows people to express a dislike of the project? Explain how that is done in the one decision method and why it cannot be done in the other one. What is the advantage of the other decision method? Explain your logic.

11) (18 points) The graph to the right has at least seven errors. It is supposed to represent a perfectly competitive firm and industry in the long-run equilibrium. Find THREE of the errors and state how you know they are errors.



12) (20 points) Answer EITHER Part

OR Part B.

A) What is the long-term problem facing Social Security? What are the two long-term trends which mean the problem will get worse for the next decade? State how they will make the problem worse. One proposal to reduce the problem with Social Security is to increase the Social Security tax. How would that reduce the problem? Should this be part of a package to save Social Security? Explain your logic.

B) Monopolistically competitive firms advertise. What does that do to the elasticity of demand for their product? Explain your logic. Why do they set  $MR = MC$ ?

13) (20 points) Answer EITHER Part A OR Part B.

A) Draw the MC/D diagram for a monopolist. Find the quantity produced, price charged, consumer surplus, producer surplus, and dead weight loss. Briefly explain how you found each one.

B) Draw the S/D diagram. Illustrate the effects of a tax. Explain why the curve(s) moved as drawn. Find the quantity produced, price charged, consumer surplus, producer surplus, and dead weight loss for after the tax. Briefly explain how you found each one.

14) (20 points) Find the Nash equilibrium, cooperative equilibrium, and dominant strategies for both bands if they exist. Explain how you found each item asked for and if it does not exist, why it does not exist.

		Orphaned Land	
		High Price	Low Price
Ska-P	High Price	12 16	14 11
	Low Price	19 12	10 13

15) (26 points) Draw the ATC/AVC/AFC/MC diagram for a car manufacturer. Illustrate the effects of EITHER the event in Part A OR the event in Part B. Explain how you know it was a fixed cost or a variable cost, why you chose those curves to move, and why you moved them “parallel” or “non-parallel.”

A) The price of air bags goes down.

B) The price of health insurance goes down. (That is doubtful, but we can hope.)