

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 100 points (to be scaled up to 180 points) and is scheduled to take 50 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) (12 points) Answer EITHER Part A OR Part B.

A) Draw the supply and demand diagram for an industry which produces a good we import. Show the imports and explain how you found them.

B) Explain the economic reason why  $P > MR$  for all firms facing a downward sloping demand curve. Using an equation is not enough, you must also explain economic reasoning.

2) (18 points) Use the payoff matrix in the table to the right, to find the following, if they exist: each player's dominant strategy, the Nash equilibrium or equilibria, and the cooperative equilibrium. Briefly explain how you got each one and show all work. If something does not exist, explain how you know it does not exist. You may write on the matrix itself.

		Jennifer's Firm	
		High wages	Medium wages
Adam's Firm	High Wages	8                      20	4                      21
	Low Wages	9                      13	2                      10

3) (18 points) Answer EITHER Part A OR Part B.

A) Suppose there are six firms. Their sales are \$1200, \$600, \$600, \$300, and \$300. Calculate CR4, CR8, and HHI. Show all work and briefly explain what you did.

B) Given the DOJ's guidelines, should they allow a merger in an industry which has an HHI of 1750 before the proposed merger and would have an HHI of 1825 if the proposed merger is allowed? Explain your logic. What is the highest possible value for HHI in any industry? Explain your logic.

4) (24 points) Answer EITHER Part A OR Part B.

A) Draw the *kinked demand curve*. Explain why it takes its shape. Derive the marginal revenue curve for it. Explain how you got the curve. Explain why a firm may be reluctant to change its price.

B) Draw diagram for a dominant firm with a competitive fringe. Explain how you got the dominant firm's demand curve, how you got its marginal revenue curve, the dominant firm's output, the fringe's output, the industry output, and the price.

5) (28 points) Answer EITHER Part A OR Part B.

A) Suppose a Cournot duopoly has an industry demand curve written as  $P = 113 - Q_i$ . Both of the firms have a total cost function of  $TC = 10 + 5Q$ . Derive the one of the firm's demand curve. Plot it with the industry demand curve. Use it to derive the best response function. Draw it. What is the other firm's best response function? Draw that. Find the equilibrium outputs and prices. Show all work and briefly explain how you got each line, price, and outputs.

B) Draw the  $D/MR/ATC/AVC/MC$  diagram for a monopolistically competitive firm which is making positive profits. Find the quantity produced and the price charged. Explain how you found them. Find the firm's profits and explain how you found it. Illustrate what happens over time. Explain why the curve(s) moved as drawn.