

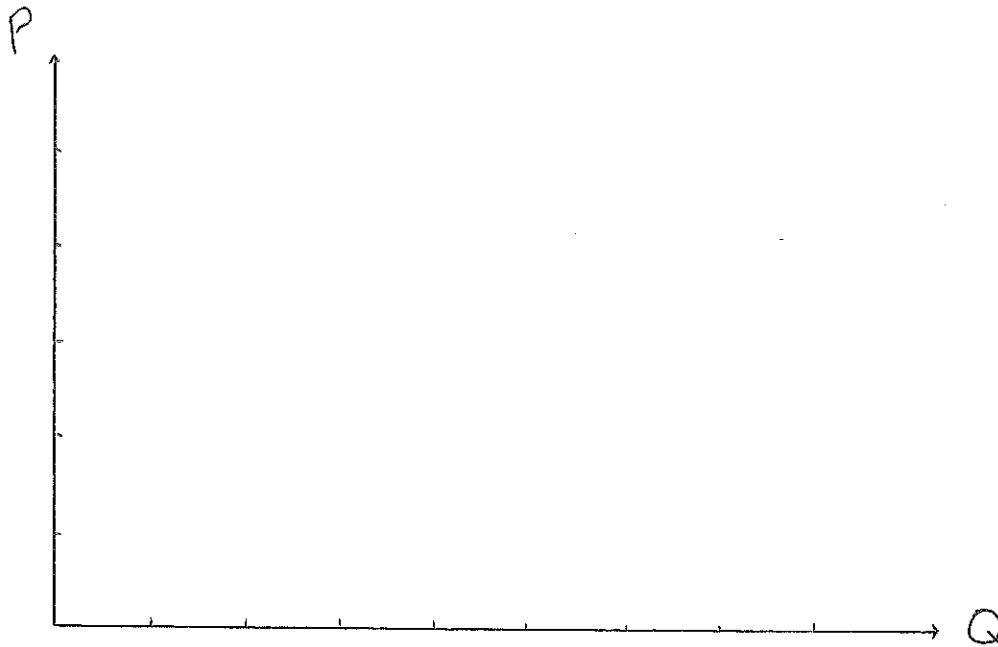
ECO 610 Final Exam
June 2017

Name: _____

100 points total. Point values for each question are as indicated. Answer each question in the space provided. General advice: show your work, including any formulas or diagrams that you use in reasoning through your answers.

1. (10 pts.) In managing its supply chain, Toyota “makes” some inputs and “buys” others. Recall our discussion of economic reasons for market procurement of an input. Then give a reason and briefly discuss why Toyota might buy (a) tires, (b) sound systems, and (c) legal services when defending itself against a product liability lawsuit.

2. (10 pts.) Your cousins Velma and Thelma, after they learned how to cook, opened an alligator-themed restaurant Baton Rouge, LA. The novelty of their idea was a hit with customers, resulting in significant economic profits in the two years since the restaurant opened. Knowing that you are soon to finish up the MBA program at UK, they approach you with an offer to partner with them to open a similar restaurant in Lexington, since people in Kentucky hate Gators just as much as people in Louisiana. They want to base the dollar amount you put up to buy into the partnership on the above-normal returns they are earning on their recently opened restaurant in Baton Rouge. They show you a diagram with D , MR , ATC , and MC curves illustrating their current situation. You are a better predictor of the future than they are, however, and have a different picture to show them about what they and you can expect long term if you open a restaurant in Lexington. Sketch this picture and briefly explain.



3. (10 pts.) Based upon your reading of "Gillette, in Change, Shaves Prices," conduct a five-forces analysis of the market for razors and blades.

4. (10 pts.) Two different industries, the first with ten firms, and the second with fifty firms. The market shares of firms A-J in the first industry are:

A	B	C	D	E	F	G	H	I	J
15%	5%	14%	6%	13%	7%	12%	8%	11%	9%

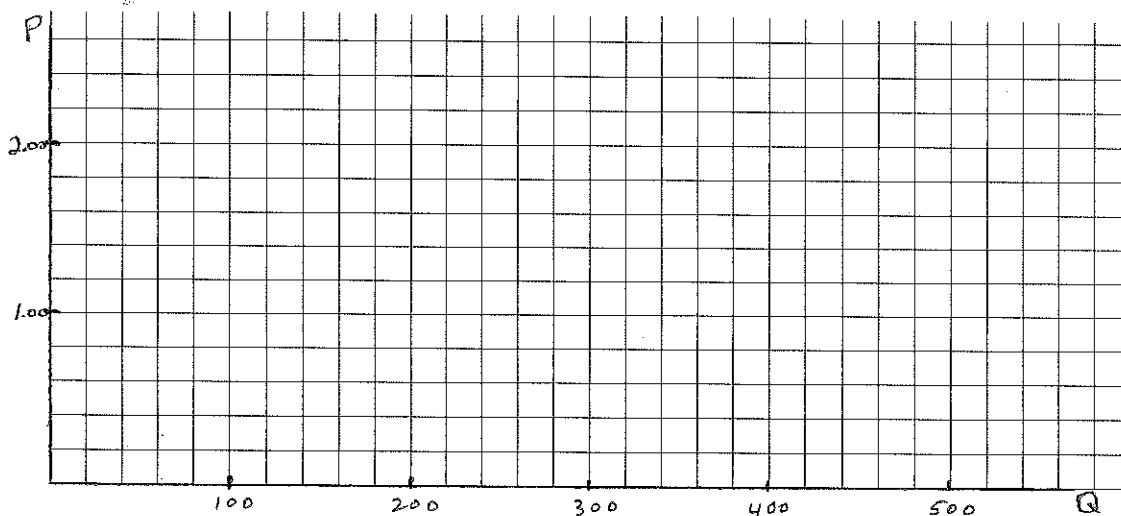
The largest firm in the second industry has a 51% market share. The other 49 firms each have one percent of the market. Calculate the four-firm concentration ratio for each industry. Then calculate the HHI for each industry. Show your work, including the formulas you use.

5. (15 pts.) Labor and capital are used to produce widgets according to the production table below:

		Labor Input				
		1	2	3	4	5
Capital Input	1	20	40	55	65	75
	2	40	60	75	85	90
	3	55	75	90	100	105
	4	65	85	100	110	115
	5	75	90	105	115	120

Per unit-prices for labor and capital are $w = \$20$ and $v = \$20$. For this particular production function, when both input prices are the same, the long-run least-cost combination of inputs occurs where $K = L$.

- Using this information, graph five points on this firm's long-run average cost curve in the diagram below. Since you have already performed this calculation a couple of weeks ago, you do not need to show your work. Just draw big dots to indicate the pertinent points. Also note that the quantity axis scale is more compressed than on the earlier one you drew.
- Now some information on market demand for widgets. If the price of widgets is \$1.80, then households will want to buy 380 widgets. If price is \$1.40, quantity demanded is 400 widgets. If price is \$1.00, then quantity demanded is 420 widgets. Sketch the market demand curve.
- Now for your analysis: How many widget producers do you think will exist in this market if widgets are relatively homogenous and entry is unimpeded. I'm looking for a range and not a precise number. More importantly, I'm looking for you to explain whether this market is going to look like the market for fast-food restaurants in Floyd, VA, Lawrenceburg, KY, or Lexington.

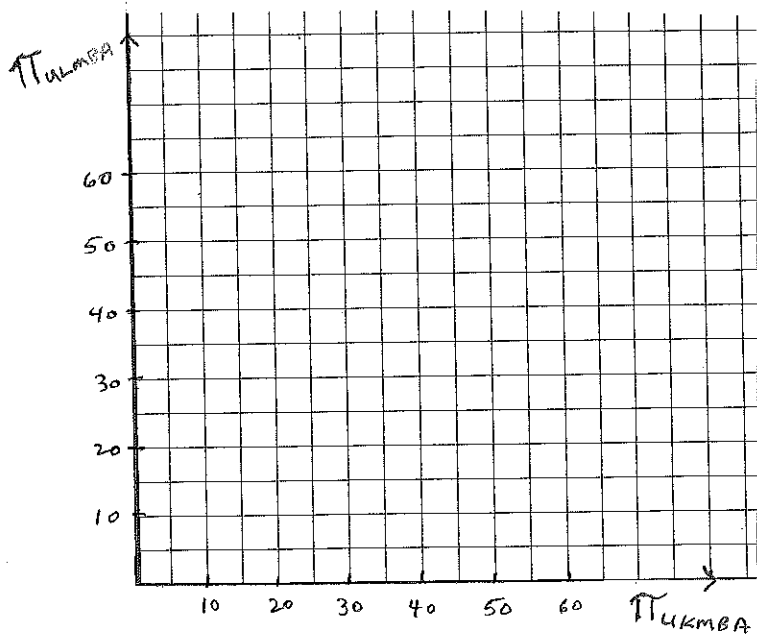


6. (20 pts.) After working with RJCorman's dinner train excursion, a group of UK MBA students decide to start their own company—a summertime dinner cruise on Lake Cumberland. At the same time, a group of UofL MBA students come up with the same idea. Each firm must commit in advance to a strategy for their dinner cruise ship. The options are (a) fast-food kiosks similar to the food court at Fayette Mall; (b) full buffet similar to Golden Corral restaurants; or fine dining similar to Dudley's Restaurant in downtown Lexington. The following profit matrix describes the payoffs to each firm depending on their own and their rival's strategy choice. UKMBA's profits are shown as the first entry in each pair, and ULMBA's profits are the second entry:

		ULMBA's Strategy Choice		
		Fast food	Buffet	Fine dining
UKMBA's Strategy choice	Fast food	32, 32	41, 30	48, 24
	Buffet	30, 41	40, 40	50, 36
	Fine Dining	24, 48	36, 50	48, 48

- a. What do you predict will be the outcome of this game if the two firms choose their strategies simultaneously? Explain the solution concept you used to solve this game.
- b. Suppose that UKMBA is first to the punch and is able to commit to a strategy first and stick with it, since they started working on the idea while still in school. Then ULMBA is left to respond, since they only get the idea after reading about UKMBA's market innovation in the newspaper. Draw the game tree and predict the outcome of this sequential move game.

7. (10 pts.) If a profit of 24 in the previous payoff matrix represents a normal return on investment (zero economic profit) for one firm, and total economic profits of 48 are what perfectly colluding duopolists could earn in this market, graph the profit possibilities frontier. Make sure to include points corresponding to (a) the market outcome if both firms lost their heads and competed aggressively with one another year after year, (b) simultaneously moving duopolists, (c) UKMBA with a first-mover advantage, (d) perfectly colluding duopolists, and (e) what UKMBA would experience if they were able to convince local officials to keep other firms from entering this market.



8. (15 pts.) Delta has the only non-stop service between Lexington and Washington, DC. It knows that there are two general categories of customers, business travelers and leisure travelers. Because leisure travelers generally have more options and flexibility than business travelers, their demand is more elastic. Having figured that out, Delta generally charges business travelers \$800 per round trip and leisure travelers \$300 per round trip. Suppose for purposes of answering this question that $MC = AC = \$200$ to fly a person to and from Washington, DC. Illustrate in the diagram below how Delta determined the profit-maximizing prices for these two market segments. And then calculate own-price elasticity of demand for each category of traveler.

