

100 points total. 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. (5 pts.) Knowing what you do about the market for pizzas in West Liberty, KY, would you expect producers to be able to earn persistent (long-run) above-normal returns? Briefly explain why or why not.

2. (25 pts.) Ralph and Colleen play a game. Sometimes they both select their strategy at the same time, sometimes Ralph chooses his strategy first and Colleen chooses her strategy after she sees what Ralph has decided, and sometimes Colleen goes first and Ralph chooses second. The payoff matrix for this game is as follows, where Ralph's payoff is listed first and Colleen's payoff is listed second:

		Colleen		
		Left	Middle	Right
Ralph	Top	3, 1	2, 3	10, 2
	High	4, 5	3, 0	6, 4
	Low	2, 2	5, 4	12, 3
	Bottom	5, 6	4, 5	9, 7

- a. Suppose Ralph and Colleen choose their strategies simultaneously. How do you think the game will turn out? Use the solution concepts we developed in class and explain your answer in a step by step fashion.

- b. Now suppose that Ralph and Colleen decide to play the game sequentially, with one of them going first and the other one choosing their strategy after seeing the strategy choice of the one who went first. Feeling chivalrous, Ralph lets Colleen choose whether she wants to go first or second. Colleen turns to you for advice. Draw two game trees and explain whether Colleen should choose to go first or second.

3. (5 pts.) In 2009 the market shares of different television set manufacturers were Samsung – 17.2%, LG – 14.8%, Panasonic – 6.9%, TCL – 6.6%, Sony – 5.9%, and all others 48.6%. Suppose “all others” consisted of nine firms, each having 5% market shares and one firm having 3.6% market share. Compute the HHI.

4. (10 pts.) Your professor's brother-in-law Bubba owns a restaurant/bar in Fort Walton Beach, Florida. On a recent visit Bubba shared the following information:

Income Statement for Bubba's Bar			
	<u>Costs</u>		<u>Revenues</u>
Wholesale cost of food and beer	\$40,000	Sales of food and drinks	\$130,000
Wages and salaries (including \$20,000) for himself)	\$50,000		
taxes and insurance	\$12,000		
interest paid on bank loans \$100,000 @ 10%	\$10,000		

Bubba has \$50,000 of his own money invested in the bar. He anticipates that business will continue like this for the foreseeable future. Bubba also has a standing offer of \$30,000 to manage another bar in Fort Walton Beach. Suppose a national restaurant/bar chain offers Bubba \$150,000 to sell his bar, which would enable him to pay back the \$100,000 bank loan and recoup his own \$50,000. Should he take the offer? (Hint: what are Bubba's economic profits?)

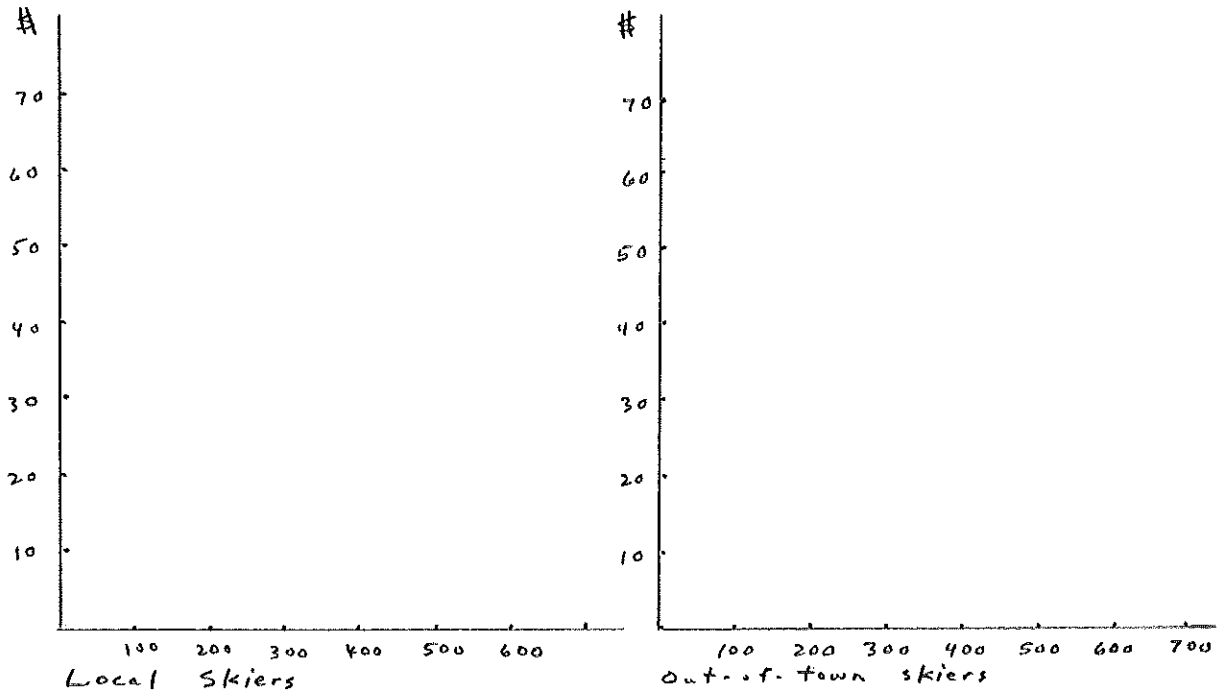
5. (5 pts.) In the Trojan War, the Greeks landed on the shore of Troy and then marched overland to the walled city of Troy. After a long and bloody battle, the Greeks were exhausted. While the Greek army slept, the Trojan king sent a raiding party behind the Greek lines to burn the Greeks' ships. Knowing what you do about game theory, was this a good or a bad strategic move?

6. (20 pts.) Snowfish Ski Resort has two different types of customers, local skiers and out-of-town skiers. By asking to see a driver's license, the resort can determine their type and charge each group different prices. Their respective demand curves are given by:

a. Local: $Q_L = 500 - 20P_L$

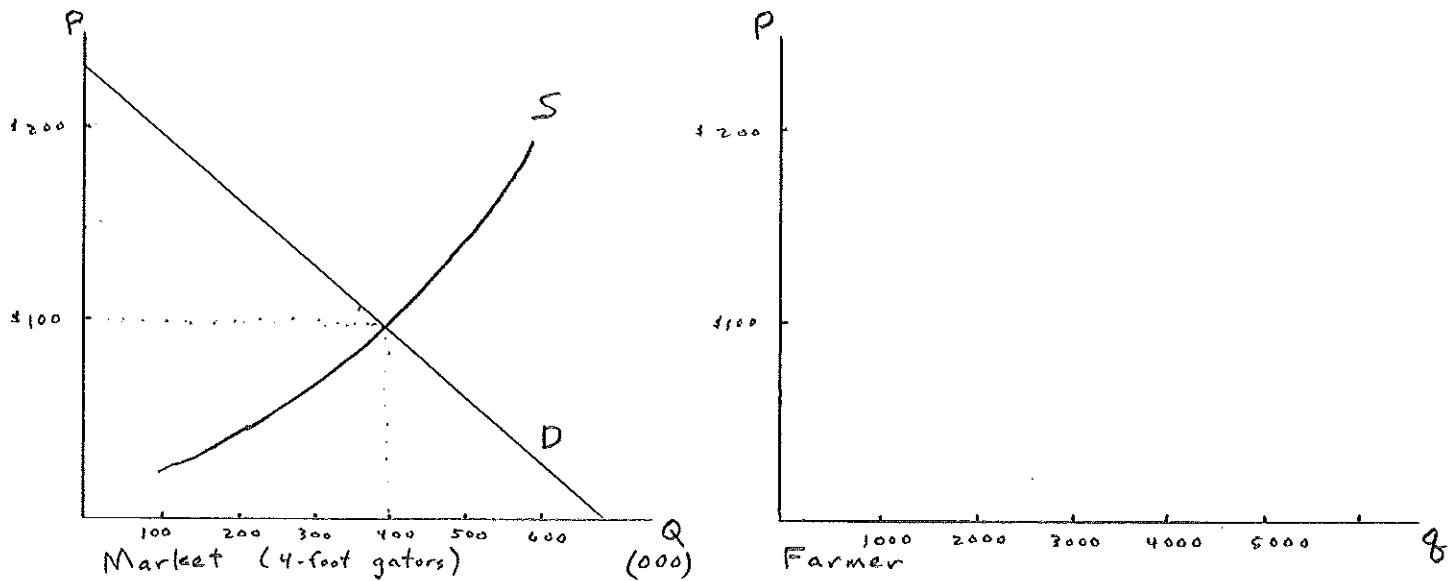
b. Out-of-town: $Q_O = 500 - 10P_O$

The marginal cost of servicing a skier of either type is constant and equal to \$10. Use the diagrams below to determine the profit-maximizing prices and quantities for each category of skier. How much profit does Snowfish make?



Without using the formula for elasticity of demand and calculating it directly, can you determine what own-price elasticity of demand is at P_L, Q_L ? at P_O, Q_O ?

7. (20 pts.) The American Alligator Association is a trade group that represents alligator farmers in America. Right now, the industry is in long-run equilibrium. As president of AAA, you see an opportunity for alligator farmers to increase their profits. Next month the association is having its annual convention in Baton Rouge, and every alligator farmer in the country will be present. You would like to make a presentation to the group and explain how they can each make above-normal profits if they will cooperate and act in unison, rather than competing so vigorously with one another.
- a) Using diagrams for the alligator market and for a representative firm, explain how an alligator cartel could accomplish this.



- b) What are the long-run prospects for such a cartel, assuming that it is initially successful? Explain your reasoning using the same diagrams that you introduced in part (a).

8. (5 pts.) Microsoft recently developed a search engine, Bing, that competes with Google's search engine. Google recently announced that it is developing an operating system that will compete with Microsoft's Windows. Each company now must choose whether to compete vigorously in the other company's main product market, or **not** to aggressively try to grab market share with its new product. Draw a 2x2 payoff matrix with imaginary numbers that are consistent with the two companies adopting nonaggressive strategies towards each other.

9. (5 pts.) Give an example of the "mind games" that Frontier Airlines plays with United Airlines.