

Economics 101-008  
 Professor Michael Salemi  
 November 3, 2009  
 Midterm Exam Two

Last Name \_\_\_\_\_  
 First Name \_\_\_\_\_  
 PID Number \_\_\_\_\_  
 TA Name and Section Number \_\_\_\_\_

During this examination, students may **not** use notes, books, computers, programmable calculators, cell phones or any electronic device other than a simple calculator. Students may **not** talk with other students or look at the exam papers of other students. Once the exam begins, students may not leave the room until they finish and turn in their exams.

Honor Pledge: I have neither given nor received unauthorized aid on this examination. I know and have abided by the examination rules and instructions.

Signed: \_\_\_\_\_

**Instructions**

1. On the blue Scantron sheet:
  - a. Bubble in your last name, first name and PID.
  - b. Bubble in the section number of your recitation in the “sequence number area” as 1018xx where xx is determined by your section number. For example, someone in section 812 would bubble in 101812. See below for a list of section numbers.
  - c. **Students who incorrectly bubble their name, PID, or section number are penalized 1 percent of their total course points.**
  - d. Write the form color of the examination on the upper left corner of the bubble sheet. The form is “white”, “green”, “blue” or “yellow”.
2. The examination includes 32 equally weighted questions. Answer all questions by marking the bubble sheet and by circling the correct answer on the examination itself. In the case of conflict, the scantron answer is the official answer.
3. If you believe there is no right answer or more than one right answer to any question, explain your reasoning on the back of the exam question sheet (not the scantron sheet). We will not consider an appeal unless you have recorded your argument on the back of the exam sheet during the exam period.
4. When you have finished the examination, sign the honor pledge. We will not consider an examination valid unless you sign the pledge.
5. When you are finished, turn in the answer sheet and the examination by putting them on the correct piles at the podium.

Econ 101-008 Recitation Sections					
Recitation	Day	Time	Building	Room	Teaching Assistant
801	W	12:00 PM -12:50 PM	GARDNER	103	Serkan Yuksel
802	W	01:00 PM -01:50 PM	GARDNER	210	Serkan Yuksel
803	W	02:00 PM -02:50 PM	GARDNER	210	Umut Tuysuzoglu
804	W	03:00 PM -03:50 PM	GARDNER	9	Umut Tuysuzoglu
805	W	04:00 PM -04:50 PM	GARDNER	9	Ezequiel Cabezón
806	R	08:00 AM -08:50 AM	GARDNER	103	Dimitris Katsoridas
807	R	09:30 AM -10:20 AM	GARDNER	1	Dimitris Katsoridas
809	R	11:00 AM -11:50 AM	GARDNER	103	Dimitris Katsoridas
810	R	03:30 PM -04:20 PM	GARDNER	103	Matthew Harris
812	W	04:00 PM -04:50 PM	GARDNER	1	Umut Tuysuzoglu
813	R	03:30 PM -04:20 PM	GARDNER	9	Ezequiel Cabezón
814	W	08:00 AM -08:50 AM	GARDNER	1	Matthew Harris
815	W	08:00 AM -08:50 AM	GARDNER	9	Ezequiel Cabezón
817	W	11:00 AM -11:50 AM	GARDNER	9	Serkan Yuksel

If you think a question has no right answer or more than one right answer, please explain your reasoning in this space.

**For every question assume the normal shapes to demand and supply schedules unless instructed otherwise. Also, assume there are no third party effects unless instructed otherwise.**

1. A mill and a fishery are both located on a stream in the mountains of Western North Carolina. North Carolina law gives the mill the right to discharge warm water into the stream. If the mill chooses a high temperature for its discharged water, the mill is more profitable but the fishery is less profitable. If the mill chooses a low temperature for its discharged water, the mill is less profitable because it costs money to lower the temperature of the water prior to discharge but the fishery is more profitable because fish do better in cooler water. The following table gives the values of the mill and the fishery as a function of the mill's discharge decision. Suppose bargaining is possible at low cost. Which of the following is correct?

Mill Decision	Value of Mill	Value of Fishery
Low Temperature	\$80,000	\$40,000
High Temperature	\$100,000	\$30,000

- a. The fishery will offer a side payment to the mill and the mill will respond by lowering the temperature of its discharge water.
- b. The mill will continue to discharge high temperature water.
- c. The social optimum is a low discharge temperature but North Carolina law prevents the optimum from being reached.
- d. A change in the law which gave the fishery the right to determine the temperature of the mill's discharge water would result in low temperature discharge.
2. The principle of comparative advantage states that
- a. When nations specialize in the production of goods for which they have a comparative advantage and trade, they enjoy a higher national product than when they do not.
- b. A nation will benefit if it uses tariffs to protect industries that have a comparative advantage relative to other nations.
- c. The only efficient production strategy for a nation that trades is to completely specialize in production of the good for which it has a comparative advantage.
- d. When a nation specializes in a good for which it has a comparative advantage and trades with other nations, producers and consumers end up with higher surpluses.
3. After Hurricane Ike, the North Carolina Attorney General threatened prosecution of gasoline retailers who sold gasoline at a price that represented a higher markup over their wholesale cost than was customary before the hurricane. Which of the following best describes the effect of this "anti-gouging" law on the market for gasoline after the hurricane? The "anti-gouging" law \_\_\_\_\_.
- a. Created a temporary equilibrium that allocated gasoline at the pre-hurricane price.
- b. Made society better off by increasing the efficiency of the allocation of gasoline.
- c. Created an effective price ceiling which led to shortages of gasoline.
- d. Made society worse off because it raised producer surplus and lowered consumer surplus.
4. Mario leases five acres of vineyard from Fredo in Tuscany. With the grapes he grows on Fredo's land, Mario makes wine. When Mario first started making his wine it was little known, sold for \$20 per bottle and Mario made just enough profit to keep him in the business. Then, wine critic Robert Parker began recommending Mario's wine and its price rose to \$60 per bottle. As time passes, who will benefit from this good fortune?
- a. Fredo if the grapes grown in the vineyard are better than grapes grown elsewhere.
- b. Fredo because land owners take the risks and earn the profits.
- c. Mario if the grapes grown in the vineyard are better than grapes grown elsewhere.
- d. Mario because entrepreneurs take the risks and earn the profits.

5. The New York Times recently reported a technological breakthrough—a process that allows dairy farmers to select the sex of the offspring they breed. While it is rational for individual dairy farmers to use the new technique to breed only females and raise the size of their dairy herds, the breakthrough has been bad news for the dairy industry. Which of the following can explain why the breakthrough is bad news for the dairy industry? The demand for milk is \_\_\_\_\_ and raising the size of the dairy herd has \_\_\_\_\_ revenue earned by dairy farmers.
- Elastic, increased
  - Elastic, decreased
  - Inelastic, increased
  - Inelastic, decreased

6. Randi is the only qualified tutor for Econ 101 at Elon College. Randi’s best alternative to tutoring is working at the Elon College Press where she can earn \$10 per hour and work as many hours as she wants. Five students have asked Randi to spend one hour each helping them privately prepare for the midterm exam. Randi figures that the reservation prices of each potential customer are those listed in the following table. While Randi would like to charge each student a different price, she cannot because the students are friends who share information. How much should Randi charge if she would like to earn as much as possible?

Student	Reservation Price
A	\$30
B	\$10
C	\$25
D	\$20
E	\$15

- \$30
  - \$20
  - \$15
  - \$10
7. Suppose there are three companies near the Mississippi river. Each company produces 1600 tons of chemical waste per year which causes water pollution. The government wants to reduce total chemical waste to 2400 tons and distributes 8 pollution credits to each company. Each credit allows a company to emit 100 tons of chemical waste per year. Companies are allowed to buy and sell credits but the price of the credit is set by the government. The government should set the price of a credit to \_\_\_\_\_ which will lead firms to reduce pollution as follows:\_\_\_\_\_.

Chemical Waste Reduction	Marginal Cost per Ton of Chemical Waste Reduction		
	Firm 1	Firm 2	Firm 3
0-200	\$100	\$100	\$50
201-400	\$100	\$100	\$100
401-600	\$100	\$150	\$200
601-800	\$150	\$200	\$300
801-1000	\$200	\$300	\$500
1001-1200	\$300	\$350	\$700

- \$151; Firm 1 reduces by 600, Firm 2 by 800, and Firm 3 by 1000.
- \$151; Firm 1 reduces by 1000, Firm 2 by 800, and Firm 3 by 600.
- \$201; Firm 1 reduces by 1000, Firm 2 by 800, and Firm 3 by 600.
- \$201; Firm 1 reduces by 600, Firm 2 by 800, and Firm 3 by 1000.

8. Which of the following economic principles is well illustrated by the following quote from “The Economic Organization of a Prisoner of War Camp”?

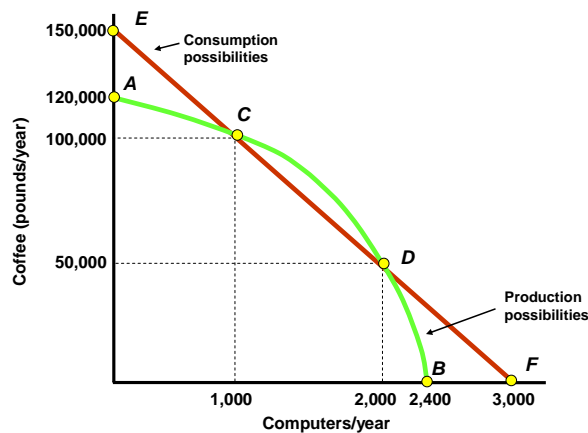
“One man capitalized his knowledge of Urdu by buying meat from the Sikhs and selling butter and jam in return: as his operations became better known more and more people entered his trade, prices in the Indian Wing approximated more nearly to those elsewhere....” (p. 193)

- a. Profit is the motivator; competition is the regulator.
- b. Economic rationality requires one to ignore “sunk costs” when making a decision.
- c. What is economically efficient is not necessarily fair.
- d. Surplus is the difference between reservation price and opportunity cost.

9. A firm has market power if it \_\_\_\_\_.

- a. Can sell as much of its good as it wants at the price it chooses.
- b. Confronts a perfectly elastic demand curve for its good.
- c. Can effectively compete with many firms in its industry.
- d. Can change the market price of its good.

10. Jamaica produces coffee and computers with production possibilities shown in the following diagram. Suppose that Jamaica is open to international trade and has chosen to produce at point C in the diagram. Because the world price of a computer is \$500 and the world price of coffee is \$10.00, Jamaica could obtain any point along the line EF. You have been asked to recommend a strategy that will provide maximum economic benefits to Jamaica. What advice do you give?

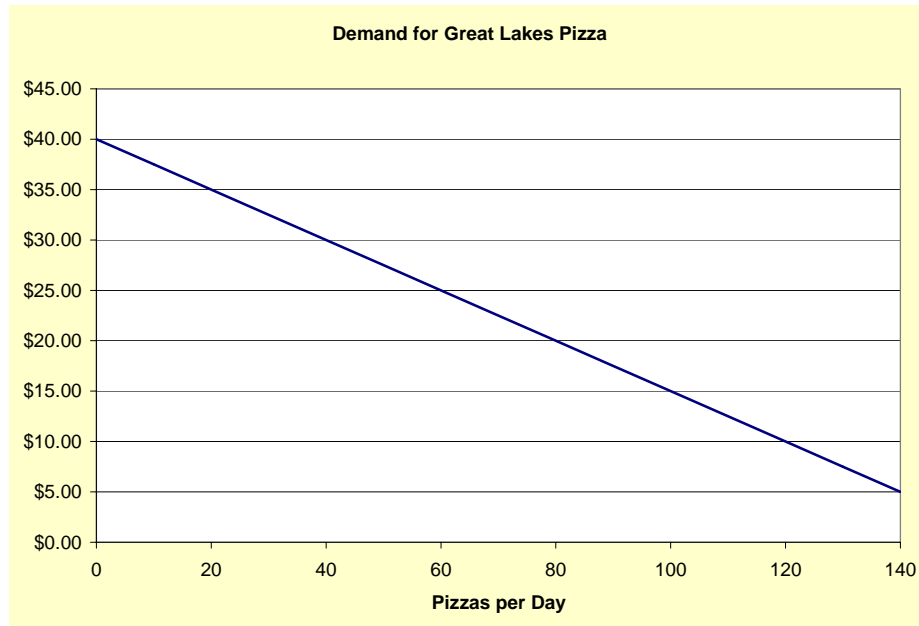


- a. Keep producing at C and trade coffee for computers.
- b. Keep producing at C and trade computers for coffee.
- c. Increase production of computers to the point where the opportunity cost of computers is the same in production as it is in world prices.
- d. Increase production of coffee to point A to take advantage of Jamaica’s comparative advantage in coffee production.

11. Which of the following correctly explains the effect of charging an excise tax on cigarettes on economic efficiency? The excise tax on cigarettes will \_\_\_\_\_ economic efficiency because \_\_\_\_\_.

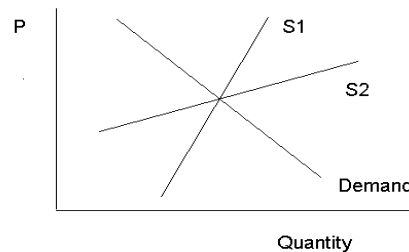
- a. Lower, it will raise the price of cigarettes above the marginal cost of cigarettes.
- b. Lower, cigarette consumption imposes costs on third parties.
- c. Improve, it will raise the price of cigarettes above the marginal cost of cigarettes.
- d. Improve, cigarette consumption imposes costs on third parties.

Great Lakes Pizza is considering changing the price it charges for its one ingredient pizza. Great Lakes hired an economic consultant who estimated demand for the Great Lakes one-ingredient pizza and reported her findings in the form of the graph depicted below. Answer the following two questions using the data from the graph.



12. Great Lakes calculated the marginal cost of producing its one ingredient pizza to be \$10. If Great Lakes Pizza wants as much profit as possible, it should charge \_\_\_\_\_ for its pizza?
- \$40.00
  - \$25.00
  - \$15.00
  - \$10.00
13. The marginal revenue earned by Great Lakes for selling its 40th pizza is approximately:
- \$40.00
  - \$30.00
  - \$20.00
  - \$10.00
14. The price elasticity of demand for a good is the \_\_\_\_\_.
- Slope of the demand schedule for the good expressed as a percent of the price of the good.
  - Percent change in consumer income that results from a one percent change in the price of the good.
  - Percent change in quantity demanded that results from a one percent change in the price of the good.
  - Percent change in the price of the good that results from a one percent increase in sales of the good.
15. If a firm is earning normal profit we know that \_\_\_\_\_.
- All of the below.
  - The firm's owner is earning just enough to keep her operating the firm.
  - The owner is obtaining a return to the resources she invested in the firm just equal to what she would earn in her next best investment.
  - The firm's consulting economist will say that economic profit is zero.

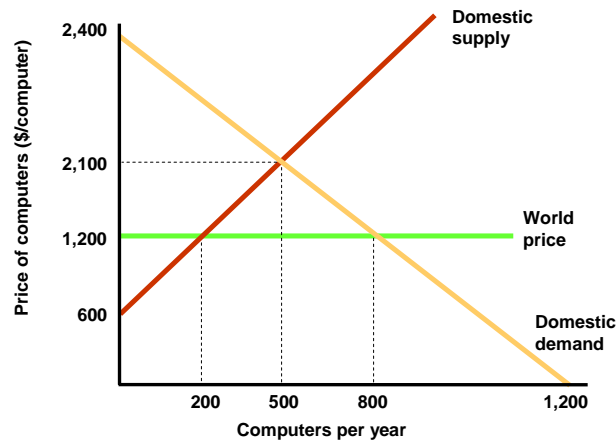
16. Tom is the only seller of nuts at the Carrboro Farmer's Market. Tom has decided to lower the price he charges for a pound of nuts. Provided that Tom wants the largest possible profit, his decision is rational if Tom believes that at his current price and quantity \_\_\_\_\_.
- His supply of nuts is inelastic.
  - His demand for nuts is elastic.
  - The price he charges for nuts is greater than his marginal cost.
  - His marginal cost is less than his marginal revenue.
17. The following diagram depicts the market for raspberries in the short run and in the long run. If there is an increase in demand for raspberries, supply schedule \_\_\_ will predict the short run change in price while supply schedule \_\_\_ will predict the long run change in price because supply is \_\_\_ elastic in the long run than in the short run.



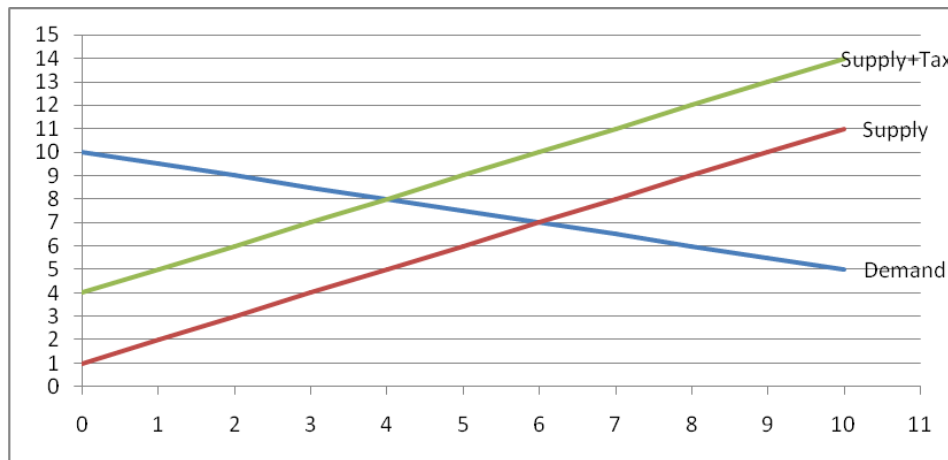
- S2, S1, Less
  - S2, S1, More
  - S1, S2, Less
  - S1, S2, More
18. John owns a café in Chapel Hill. Yesterday his consulting economist informed John that he was making an economic profit of \$500 per week by running the café. Both the economist and John agree that John's next best opportunity is to manage a Starbucks's, a job that would pay John \$1000 per week. John should \_\_\_\_\_
- Take the Job at Starbucks's because the benefits of that job are greater than its costs.
  - Keep running the café because by doing so John earns an economic profit.
  - Keep running the café because by doing so John is earning economic rents.
  - Take the job at Starbucks's because the wage at Starbucks's exceeds the profits at the café.
19. Imagine the state of North Carolina decides to increase the gasoline tax. Who will pay for this tax increase in the short run?
- Consumers, because demand for gasoline is elastic.
  - Suppliers, because consumers do not have good substitutes for gasoline.
  - Consumers, because demand for gasoline is inelastic.
  - Suppliers, because it is easy to obtain gasoline supplies from other states.
20. To reduce emissions of CO<sub>2</sub> the US is currently considering both taxes on carbon and a cap-and-trade system. According to Parry and Pizer, an advantage of a carbon tax over cap-and-trade is \_\_\_\_\_.
- It is easier to compensate hard hit industries with a CO<sub>2</sub> tax.
  - It is politically easier to impose a carbon tax than a cap-and-trade system.
  - A tax more accurately fixes the price of emitting CO<sub>2</sub>.
  - A CO<sub>2</sub> tax is better at hitting a CO<sub>2</sub> emissions target.

21. Durham obtains its water supply from three sources—A, B, and C. It costs the Durham Water Authority 5 cents per hundred cubic feet (HCF) to supply water from source A, 7 cents per HCF to supply water from source B, and 10 cents per HCF to supply water from source C. In the summer, Durham must use all three sources to satisfy consumer demand. Which of the following correctly explains why it is economically efficient for Durham to charge 10 cents per HCF for water during the summer?
- When users pay the true marginal cost for water, it is not possible to make someone better off without making someone else worse off.
  - Durham earns the largest profit from water sales if it charges 10 cents per HCF.
  - At a price of 10 cents per HCF, marginal revenue equals marginal cost and a social optimum is reached.
  - If Durham charges more than 10 cents per HCF, it creates negative externalities; if it charges less, the city makes a negative economic profit.
22. In Asheville, there are two sources of electric power. A hydroelectric power plant produces power at the cost of \$0.04 per kilowatt hour (KWH) and a coal fired generator produces power at the cost of \$0.07 per KWH. The hydro plant has a capacity of 3 million KWH and the coal fired generator has a capacity of 10 million KWH. On a normal weekday, consumers in Asheville use 11 million KWH between 6:00 am and 10:00 pm and 2 million KWH between 10:00 pm and 6:00 am. What should Asheville consumers pay for electricity?
- An average of \$0.04 and \$0.07 per KWH with the weights used in the average set at values that guarantee that economic profit of the utility company is zero.
  - \$0.07 per KWH at all times because this is the marginal cost to Asheville of producing electricity.
  - \$0.07 per KWH between 6:00 am and 10:00 pm and \$0.04 per KWH between 10:00 pm and 6:00 am.
  - Customers supplied by the hydro plant should pay \$0.04 per KWH. Customers supplied by the coal fired plant should pay \$0.07 per KWH.
23. Which of the following scenarios would indicate that a firm has market power?
- The firm lowers its price and its revenue decreases proportionately.
  - The firm earns producer surplus up to the production level where price equals marginal cost.
  - The firm raises its price and its revenue increases.
  - The firm faces a demand curve that is perfectly elastic.
24. Which of the following best explains what economists mean by the expression “Profit is the motivator; competition is the regulator”?
- Agents seek profitable activities and compete with one another to undertake them.
  - It is the job of a government’s competition bureau to regulate the level of profits so that they are not unreasonably high.
  - Profits motivate suppliers but play no beneficial role for consumers.
  - Suppliers seek to undertake activities that earn the highest profits but competition among them forces profits to normal levels.
25. Matt runs a franchise of “Corn Dog on a Stick” which sells made-to-order corndogs. Sticks each cost 10 cents and corn dogs each cost 50 cents. The operating cost of the fryer is \$3.00 per hour but the fryer must run all day. To run his stand, Matt gave up \$12.00 per hour he could have earned as a rickshaw driver because he could not do both jobs. It takes Matt approximately one minute to prepare a corn dog for sale. What is Matt’s marginal cost of producing a corn dog?
- \$0.50
  - \$0.60
  - \$0.65
  - \$0.85

26. The following diagram shows the computer market in Jamaica before the introduction of free trade. Which of the following will occur if free trade is introduced to Jamaica?



- a. The surplus of Jamaican computer producers will increase.  
 b. Jamaica will import 300 computers per year.  
 c. Jamaica will export 600 computers per year.  
 d. The surplus of Jamaican computer buyers will increase.
27. The following figure illustrates the demand for and supply of avocados. The quantity is measured in thousands of pounds, the price is measured in dollars per pound. Consumption and production of avocados entail no third party effects. Suppose the government places a \$3 tax on each pound of avocados. The tax causes the market price of avocados to be \_\_\_\_\_ which implies that \_\_\_\_\_ bear the greater burden of the tax.



- a. \$8.00, producers  
 b. \$7.00, producers  
 c. \$8.00, consumers  
 d. \$7.00, consumers

28. If a good is produced and consumed without third party effects, then placing an excise tax on the good will be economically inefficient because the tax will raise \_\_\_\_\_.
- The market price of the good above the marginal cost of the good.
  - The market price of the good and cause producers to overproduce the good.
  - Tax revenue that the government will waste on low value projects.
  - Profits earned by non-competitive producers of the good.
29. The way in which student tickets for Tar Heel basketball games are allocated to students is \_\_\_\_\_ because \_\_\_\_\_.
- Unfair, because die hard fans have no way to earn extra tickets by supporting Tar Heel teams.
  - Inefficient, because die hard fans have no way to earn extra tickets by supporting Tar Heel teams.
  - Unfair, because there is no way for students to trade tickets after the ticket lottery.
  - Inefficient, because there is no way for students to trade tickets after the ticket lottery.
30. Which of the following transactions involves a “third party effect”?
- Buying a pizza from Sal’s pizzeria and sharing it with someone.
  - Planting a beautiful tree in your front yard where it can be seen.
  - Using cheese imported from Italy to make the sandwiches at your café.
  - Paying the workers at your restaurant a low wage.
31. A resource allocation is said to be economically efficient if \_\_\_\_\_.
- Any reallocation that makes someone better off makes someone else worse off.
  - The allocation maximizes total consumer surplus.
  - The allocation equates total consumer surplus and total producer surplus.
  - Any reallocation creates a negative externality.
32. The Florida Fresh Farms orange juice company can buy juice from three orange growers. The following table shows the cost and capacity of each source including the cost to Florida Fresh Farms of storing and selling the juice.

Source	Capacity (thousands of gallons per day)	Cost per gallon
Grower A	2	\$2.50
Grower B	3	\$2.75
Grower C	2	\$3.00

- Each day, Florida Fresh Farms sells 4 thousand gallons of juice at a price of \$3.00 to customers who prefer its brand. The allocation of orange juice that results is \_\_\_\_\_ because \_\_\_\_\_.
- Inefficient, marginal revenue is greater than marginal cost.
  - Inefficient, price is greater than marginal cost.
  - Not Individually rational, marginal revenue is greater than marginal cost.
  - Not individually rational, price is greater than marginal cost.