

ECON 102 – Principles of Microeconomics

Professor Elliott Parker

Spring 2005 Midterm **Exam 1**

NAME _____

Part I (60%) - Multiple Choice: Use a scantron to mark the single best answer the following questions (2% each).

1. In China, which of the following would be a resource in the production of rice?
 - A) labor
 - B) capital equipment
 - C) fertile land
 - D) all of the above

2. For an economist, the cost of something is:
 - A) what you gave up to get it.
 - B) always equal to its market value.
 - C) the quantity of resources used to produce it.
 - D) the amount of money you paid for it.

3. While buying refreshments for an upcoming party, you notice that a pack of Americana Beer costs \$2 and a pack of Bavarian Beer costs \$4. You buy the Bavarian Beer although you wonder if maybe two packs of Americana Beer would have been a better choice. The opportunity cost of the Bavarian Beer is:
 - A) the \$4 and the Americana Beer.
 - B) two packs of Americana Beer.
 - C) the \$4.
 - D) a pack of Americana Beer.

4. Economists tend to believe that to change people's behavior:
 - A) you must change their incentives.
 - B) you must legislate the change.
 - C) you must appeal to their concern for society.
 - D) none of the above can be done to change people's behavior.

5. One of the controversies surrounding America's energy markets is the tradeoff between energy production and clean air. Assuming clean air has value, the United States will be on its production possibilities frontier if and only if:
 - A) Pollution is eliminated.
 - B) the price of energy is relatively low.
 - C) Resources used to create clean air and energy are being fully utilized.
 - D) Resources used to create clean air and energy are not being fully utilized.

6. When the economy suffers a downturn, vacationers are more likely to take car trips than to fly. Which of the following provides the most reasonable explanation for this phenomenon?
 - A) Air travel is an inferior good and vacation travel by car is a normal good.
 - B) Air travel is a normal good and vacation travel by car is an inferior good.
 - C) Air travel and vacation travel by car are complementary goods.
 - D) Air travel and vacation travel by car are both normal goods.

7. With international trade, a country may:
 - A) consume inside its production possibilities frontier.
 - B) find its production possibilities frontier will shift outward.
 - C) consume outside its production possibilities frontier.
 - D) do none of the above.

8. Suppose that in one hour, the United States can produce 25 tons of steel or 250 automobiles, while Japan can produce 30 tons of steel or 275 automobiles. This information would imply that:
 - A) the United States has a comparative advantage in the production of automobiles.
 - B) Japan has a comparative advantage in the production of both goods.
 - C) Japan has a comparative advantage in the production of automobiles.
 - D) the United States has an absolute advantage in the production of steel.

9. Abe starts exercising regularly, and after a few months discovers he can now do twice as much of everything—in a single day Abe can now make 10 hamburgers or 8 milkshakes, rather than the 5 hamburgers and 4 milkshakes in the past. We now know that:
- A) Abe's production possibilities frontier has not changed, but his opportunity cost of making milkshakes have decreased.
 - B) Abe's production possibilities frontier has not changed, but his opportunity cost of making milkshakes have increased.
 - C) Abe's production possibilities frontier has shifted right, but his opportunity costs of making milkshakes are unchanged.
 - D) Abe's production possibilities frontier has shifted right, but his opportunity costs of making milkshakes have decreased.
10. Which of the following will NOT cause an increase in the supply of cornflakes?
- A) a reduction in the price of corn
 - B) the expectation by producers that the price of cornflakes will fall in the future, because they anticipate the release of a government report that claims that oat bran is healthier than cornflakes
 - C) a cost-saving improvement in the technology of corn production
 - D) an increase in the price of cornflakes
11. A technological advance in the production of automobiles will:
- A) increase the supply of automobiles.
 - B) decrease the demand for automobiles.
 - C) decrease the supply of automobiles.
 - D) increase the demand for automobiles.
12. A recent news story reported that OPEC is expected to decrease the supply of oil next summer. Summer is traditionally a time of increased demand for oil because of the many families driving and flying to vacation sites. What would be the combined effect of these two events on the summer market for gasoline?
- A) an increase in the price and the quantity
 - B) an increase in the price and an unpredictable change in the quantity
 - C) an unpredictable change in both the price and the quantity
 - D) an unpredictable change in the price and a decrease in the quantity
13. French fries and hamburgers are complements. Suppose that the cost of the ingredients used to make hamburgers rises, and this affects the price of a hamburger. We should then expect as a result that the equilibrium price of French fries ____ and the equilibrium quantity ____.
- A) falls; decreases
 - B) falls; increases
 - C) rises; increases
 - D) rises; decreases
14. Rapidly increasing health costs have been a major political concern since at least 1992. Suppose that to control rising health costs the government sets the maximum price for a normal doctor's visit at \$20, but the current market price is \$40. Then:
- A) more people will be able to see the doctor, since the price is lower.
 - B) fewer people will try to see the doctor, and the doctors will see fewer patients.
 - C) the same number of people will try to visit the doctor, and the doctor will see the same number of patients.
 - D) more people will try to visit the doctor, but the doctor will see fewer patients.
15. Rent controls in New York City cause all of the following *except*:
- A) wasted resources resulting from the opportunity cost of time associated with trying to find an apartment.
 - B) black markets.
 - C) an increase in the quantity supplied of rent-controlled apartments.
 - D) inefficiently low quality.

16. West-African cotton farmers are very upset about the subsidies the U.S. government pays to American cotton farmers. One reason for this could be that:
- A) subsidized cotton from the United States has led to an increase in the demand for West-African cotton.
 - B) subsidized cotton from the United States has led to a global shortage of cotton.
 - C) subsidized cotton from the United States raises the world price of cotton.
 - D) subsidized cotton from the United States leads to global cotton surpluses and lower prices for West-African farmers.
17. In Europe, the minimum wage has led to all of the following *except*:
- A) European governments hiring the surplus of workers.
 - B) high unemployment, especially among young workers.
 - C) widespread evasion of the minimum wage law in the black labor market.
 - D) a proliferation of tiny companies in Italy.
18. The Cozy Chair Company believes it can sell 20 chairs per day at \$200 per chair, or 30 chairs at \$150 per chair. Using the midpoint formula, you can calculate that the price elasticity of demand (to the nearest tenth) for Cozy Chairs is:
- A) 0.7.
 - B) 0.5.
 - C) 1.4.
 - D) 2.5.
19. Each month Jacquelyn spends exactly \$50 on ice cream regardless of the price. Jacquelyn's price elasticity of demand for ice cream is:
- A) one.
 - B) less than one, but greater than zero.
 - C) zero.
 - D) greater than one.
20. You manage a popular nightclub and lately revenues have been disappointing. Your bouncer suggests that raising drink prices will increase revenues, but your bartender suggests that decreasing drink prices will increase revenues. You aren't sure who is right, but you do know that:
- A) both the bouncer and bartender think the demand for drinks is elastic.
 - B) your bouncer thinks the demand for drinks is elastic, while your bartender thinks the demand for drinks is inelastic.
 - C) both the bouncer and bartender think the demand for drinks is inelastic.
 - D) your bouncer thinks the demand for drinks is inelastic, while your bartender thinks the demand for drinks is elastic.
21. The cross-price elasticity of electricity with respect to the price of natural gas has been estimated as being equal to 0.2. This implies that:
- A) one of the two goods is inferior while the other is normal, but we need additional information to determine which of them is inferior.
 - B) electricity and natural gas are substitutes.
 - C) electricity and natural gas are complements.
 - D) natural gas and electricity are both normal goods.
22. When Joe's income is \$100 per week, he spends \$20 per week on pizza. When his income rises to \$110 per week, he spends \$25 per week on pizza. If the price of pizza remains constant, this information implies that for Joe:
- A) pizza is a normal good and a luxury.
 - B) pizza is a necessity.
 - C) pizza is an inferior good since his expenditure rose by less than the increase in income.
 - D) demand for pizza is price elastic.

23. The total producer surplus for a good can be calculated in all *except* one of the following ways. Which is the exception?
- the sum, for all sellers of the good, of the difference between what each seller receives and the minimum amount he or she is willing to accept for selling the good
 - the area above the supply curve and below the price at which the good is being sold
 - the area below the supply curve for the good up to the quantity of the good sold
 - the sum of the individual producer surpluses for all sellers of the good
24. The number of seats in a football stadium is fixed at 70,000. The team raises the price of a ticket from \$30 to \$40, and still sells 70,000 tickets. The price change caused a change in the consumer surplus of _____ and a change in the producer surplus of _____.
- \$40, 40
 - \$0, \$0
 - \$10; \$10
 - \$700,000; \$700,000
25. Pauli's Pizza offers the following prices: one slice for \$2, 2 slices for \$3.50, 3 slices for \$4.50, 4 slices for \$5.00. Sal orders 2 slices. >From this we know that Sal's marginal benefit from the 2nd slice must be at least _____ while the marginal benefit from the 3rd slice must be less than _____.
- \$3.50, \$1.00
 - \$1.50, \$1.00
 - \$1.50, \$4.50
 - \$3.50, \$4.50
26. On Saturday night you plan to attend a movie. You buy a ticket for \$7 and then lose it. According to marginal analysis, you should:
- buy another ticket and attend the movie only if your marginal benefit of seeing the movie is greater than \$14.
 - go home.
 - buy another ticket and attend the movie.
 - do none of the above.
27. Tara notices that one hour of studying causes her economics grade to improve by 11 points, while the second hour increases her average by 7 points, the third hour yields a 4-point gain and the fourth hour only 1 point. This means that the marginal _____ of studying _____ over time.
- benefit; decreases
 - cost; increases
 - benefit; increases
 - cost; decreases
28. In economics a "marginal" value refers to:
- A value that is most appropriately identified in a footnote.
 - the value associated with one more unit of an activity.
 - the value associated with an unimportant, or marginal activity.
 - A value entered as an explanatory item in the margin of a balance sheet or other accounts.
29. After earning your B.A., you have to decide whether to accept the offer of a job that will pay you \$45,000 per year or spend an additional two years earning an MBA. If you decide to pursue the graduate degree, your annual expenses for tuition, books, board, and lodging will be \$32,000. You have been offered a scholarship for \$10,000 per year, but in order to pay the remaining \$22,000 per year, you would have to cash in savings bonds that your grandparents have given you that have been earning \$500 in interest per year. The annual opportunity cost of earning your MBA is:
- \$77,000.
 - \$99,000.
 - \$77,500.
 - \$67,500.

30. Some baseball fans leave the game in the seventh or eighth inning in order to avoid the postgame traffic. The fans are:
- A) thinking only about the benefits of avoiding traffic.
 - B) underestimating the value of staying for the rest of the game.
 - C) making marginal decisions by comparing the cost of staying another inning to the benefit of leaving early.
 - D) not considering they have already paid the cost of their tickets.

Part II (40%) - Problems and Short Answers

1. (5%) Maya farms 10 acres. She can grow 20 bushels of corn or 30 bushels of wheat on each acre. Plot her production possibilities frontier to show all the combinations of wheat and corn that Maya can grow on her entire farm. What is Maya's opportunity cost of producing an additional bushel of corn?

2. (5%) Reuben also farms a 10-acre plot, and he can grow 40 bushels of corn or 30 bushels of wheat on each of his acres. Plot Reuben's production possibilities frontier for his entire farm. What is Reuben's opportunity cost of producing an additional bushel of corn?

3. (5%) Assume Reuben and Maya both prefer to consume both wheat and corn. They initially specialized fully according to their comparative advantage, and traded with each other. However, after a serious disagreement they decide to no longer trade with each other, and instead they produce for their own consumption, each planting 5 of their acres in corn and 5 in wheat. Show the production points for (A) specialization and (B) autarky on their PPFs above, and calculate the total amounts of wheat and corn they lose as a result of their pigheadedness.

4. (15%) Assume that the demand and supply curves for two-bedroom apartments in northwest Reno are given in the following table:

Demand		Supply	
<u>P</u>	<u>Q</u>	<u>P</u>	<u>Q</u>
\$1000	0	\$200	0
\$900	1000	\$300	1000
\$850	2000	\$400	2000
\$800	3000	\$500	3000
\$750	4000	\$600	4000
\$700	5000	\$700	5000
\$650	6000	\$800	6000
\$600	7000	\$900	7000
\$550	8000	\$1000	8000

A) In the space above, draw the supply and demand diagram, and show the free-market equilibrium price and quantity. Label carefully.

B) Assuming that the above demand and supply curves are continuous and linear, calculate consumer and producer surplus at the market-clearing price.

C) Using the midpoint (or arc) formula, calculate the own-price elasticity of demand between $P=\$600$ and $\$800$. Then calculate the own-price elasticity of supply between $P=\$600$ and $\$800$. Which is more elastic, supply or demand?

D) Suppose the city government imposes a $\$150$ tax on the landlord for each apartment rented. On your graph above, show the new equilibrium quantity, the rental price the renter pays, and the after-tax rental price the landlord receives.

E) Calculate how much consumer and producer surplus change as a result of the tax. How much revenue does the city government receive from the tax? Who pays more of the tax, landlords or renters? What is the amount of the deadweight loss?

5. (10%) Suppose the Reno City Council decided instead to make apartments more affordable . Using supply and demand analysis, compare and contrast the effects of (A) a rent control law, which reduced the average monthly rent paid by \$100, with (B) a \$100 monthly subsidy for renters. Consider the effects on both buyers and sellers. Which policy has the smaller deadweight loss? Explain.

BONUS: Based on your reading of “Sex, Booze, and Drugs,” chapter five of *The Economics of Public Issues*, by Miller, Benjamin, and North, what are the major economic effects of making it illegal to sell, distribute, or consume certain types of goods? Why does law enforcement tend to target supply rather than demand, and what effects does this have? How does it affect consumer behavior? How does it affect producer behavior and product quality? Consider the examples of Prohibition, underage drinking, drug use, and prostitution.

Part 1 Answer Key

1. D
2. A
3. B
4. A
5. C
6. B
7. C
8. A
9. C
10. D
11. A
12. B
13. A
14. D
15. C
16. D
17. A
18. C
19. A
20. D
21. B
22. A
23. C
24. D
25. B
26. C
27. A
28. B
29. D
30. C