

Economics 101 Midterm Exam #1

October 4, 2001

Instructions

Do not open the exam until you are instructed to begin. You will need a #2 lead pencil. If you do not have one you will need to borrow one from Professor Wallace or one of the TAs. Before you may begin the exam everyone must take the following steps.

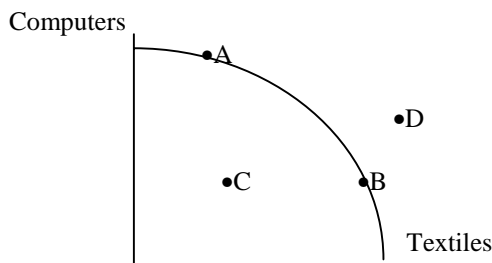
- (1) Use the #2 lead pencil to fill in your name on the answer sheet.
- (2) Fill in your student number on the answer sheet.
- (3) Fill in your TA Code in column A of the space allotted for “Special Codes” on the answer sheet.
 - a. If your TA is John Gordanier then your TA Code is 1.
 - b. If your TA is Hua Liu then your TA Code is 2.
 - c. If your TA is Guoqing Ma then your TA Code is 3.
- (4) Fill in your Exam Code in column B of the space allotted for “Special Codes” on the answer sheet
 - a. If your exam is green then your Exam Code is 1.
 - b. If your exam is white then your Exam Code is 2.

The exam consists of 35 multiple-choice questions. All questions are equally weighted. The exam is scheduled to end at 3:45 pm. Students handing their exams in more than 3 minutes past the end of the scheduled exam session will have 3 points deducted from their final score (on the 100 point scale). After the 3 minute mark the penalty will increase by 10-points for each additional minute the exam is late until the 8 minute mark when the exam grade will go to zero.

1. A game of chance works as follows: A single 6-sided die (dice) is rolled, if it is a one or a six you get \$15. Otherwise, you must pay \$6. Assuming you are risk neutral, what is the most you would be willing to pay to play this game?
 - a. \$9
 - b. \$5
 - c. \$4
 - d. \$1
 - e. Nothing

2. Which of the following is a normative statement?
 - a. A higher price for pizza causes people to want to buy less pizza.
 - b. A lower price for pizza causes people to want to buy less pizza.
 - c. To make pizza available to more people, a lower price should be set.
 - d. Person X, prefers to consume pizza to pasta.
 - e. All of these are positive

Use the following production possibilities frontier for questions 3-4



3. As the economy moves from point A to point B, which of the following is true
 - a. The opportunity cost of computers is falling.
 - b. The opportunity cost of textiles is constant.
 - c. The economy is moving from an efficient point to an inefficient point.
 - d. The opportunity cost of computers is rising.
 - e. None of the above

4. Which of the following is **NOT** true about the above graph:
 - a. Points A and B are both efficient points of production.
 - b. Point D could be produced if we could trade Computers and textiles with other countries.
 - c. Point C is attainable, but there will be some unemployed resources.
 - d. There are no unemployed resources in points A or B.
 - e. All of the above are true.

In a given afternoon, you can either do 4 loads of dishes or rake 3 bags of leaves. Your roommate can wash 3 loads of dishes or rake 1 bag of leaves. Use this information to answer questions 5-6.

5. What is the opportunity cost to you of one bag of leaves?
 - a. $\frac{3}{4}$ a load of dishes.
 - b. $\frac{1}{3}$ a load of dishes.
 - c. $\frac{4}{3}$ a load of dishes.
 - d. 1 load of dishes.

6. Which of the following is true?
 - a. There are no gains from trade since you have an absolute advantage in both goods.
 - b. You have the comparative advantage in doing dishes and your roommate has the comparative advantage in leaves.
 - c. You have the comparative advantage in both dishes and leaves.
 - d. Your roommate has the comparative advantage in dishes, and you have the comparative advantage in leaves.

7. Which of the following can shift the demand curve for demand curve for DVD rental rightward?
 - a. A decrease in the rental price of VCR rentals.
 - b. A decrease in the price of DVD players.
 - c. A decrease in the price of cable TV service.
 - d. A decrease in the price of DVD rentals.

8. Throughout the 1990's, the price of sport utility vehicles (SUV) rose and each year more were purchased. This experience suggests that:
 - a. There must have been technological advances in the way of SUVs are produced.
 - b. The law of demand does not hold true in this market, because when price increases, the demand should decrease.
 - c. There must have movement leftward along the supply curve of SUVs.
 - d. There must have been a rightward shift of the demand curve for SUVs.

9. Oatmeal is an inferior good and cold cereal is a substitute for oatmeal. The cross price elasticity of Raisin with respect to oatmeal is negative. Which of the following increases the demand for oatmeal?
 - a. An increase in the price of raisins.
 - b. An increase in income.
 - c. A decrease in population size.
 - d. An increase in the price of cold cereal.

10. If government regulations restrict the production of a particular good, the demand curve for that good will most likely
- shift leftward
 - shift rightward
 - have the same intercept, but a flatter slope
 - have the same intercept, but a steeper slope
 - remain unchanged.
11. Lily is a college student who likes to buy only two goods: Cheetos and Pepsi. To determine Lily's budget constraint (budget line), you need to know
- Lily's preferences for Cheetos and Pepsi.
 - The prices of Cheetos and Pepsi.
 - Lily's income.
- II only
 - I and II
 - II and III
 - I,II and III

Use these equations for questions 12-16.

$$Q^d = 80 - 3P$$

$$Q^s = -20 + 2P$$

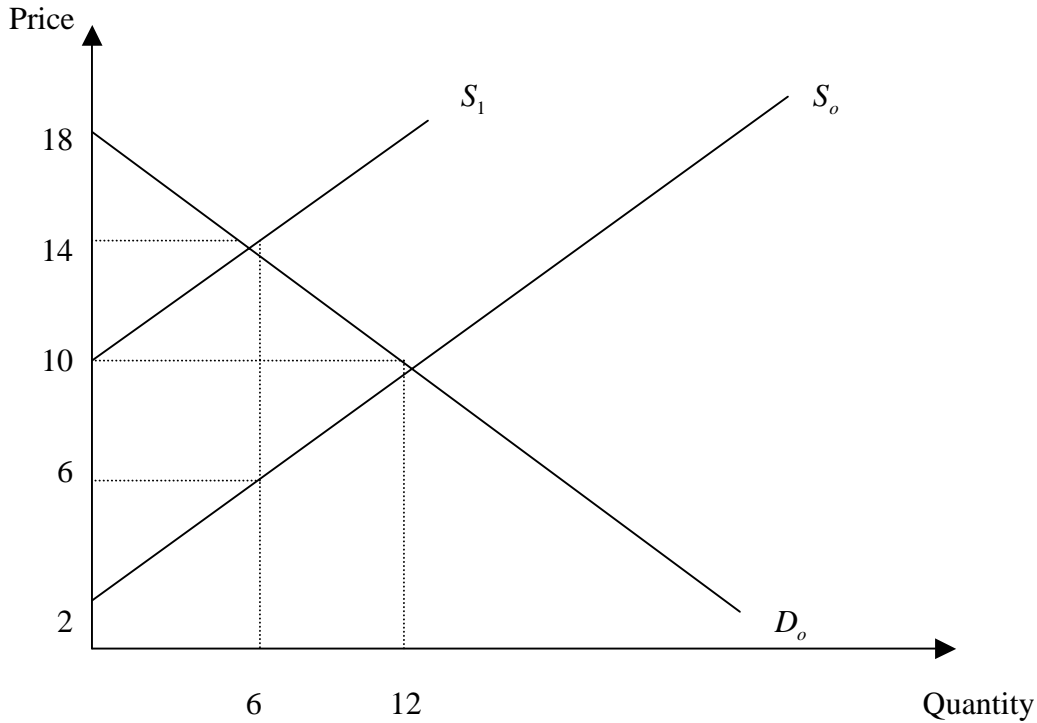
12. What is the equilibrium price and quantity in the market?
- $P = 20, Q = 20$
 - $P = 12, Q = 44$
 - $P = 100, Q = 20$
 - $P = 40, Q = 20$
13. What is the own price elasticity of demand at the equilibrium?
- 3
 - 6
 - 1
 - $\frac{1}{2}$
 - 2
14. What is the elasticity of supply at the equilibrium?
- 1
 - 5
 - $\frac{1}{2}$
 - 2
 - 0

15. What is the incidence of a unit tax on consumers?
- $2/5$
 - 1
 - $4/5$
 - 0
 - $3/2$
16. Suppose the government imposes a tax of \$5 per unit on suppliers. What is the new equilibrium price and quantity?
- $P = 20, Q = 2$
 - $P = 24, Q = 8$
 - $P = 22, Q = 24$
 - $P = 22, Q = 14$
 - $P = 20, Q = 10$
17. At what point on the demand curve $Q = 120 - 6P$ is the own price elasticity of demand equal to one.
- $P = 0, Q = 120$
 - $P = 10, Q = 60$
 - $P = 15, Q = 30$
 - $P = 3, Q = 60$
 - The own price elasticity is always less than one.
18. Suppose that the demand curve is $Q^d = 50 - 2P$ and the supply curve is $Q^s = 3P$. Suppose that the government imposes a price ceiling of \$12 a unit. Which of these is true about the equilibrium quantity?
- There is a shortage of 22 units.
 - There is a surplus of 22 units.
 - There is a surplus of 10 units.
 - There is a shortage of 10 units.
 - There is no surplus or shortage.
19. Suppose that bad weather severely damaged wheat crops that are used to make bread. What has happened to the equilibrium price and quantity for bread?
- price increases, and quantity decreases.
 - price decreases, and quantity increases.
 - price increases, and quantity is indeterminate.
 - price increases, and quantity decreases.
 - price decreases, and quantity decreases.

20. Suppose that the Surgeon General announces that Vitamin E capsules help to increase brain activity of growing children. As a result, the effect on equilibrium price and quantity of Vitamin E capsules would be:
- price is indeterminate, and quantity increases
 - price increases, and quantity increases
 - price decreases, and quantity increases
 - price increases, and quantity is indeterminate
 - price decreases, and quantity decreases

Use the following information for questions 21-23. Suppose the demand for light bulbs is $Q^d = 120 - 2P - 4P_l + Y$ where P_l is the price of lamps and Y is income. Supply is defined by $Q^s = -30 + 3P$. Initially, $Y = \$40$ and $P_l = \$10$.

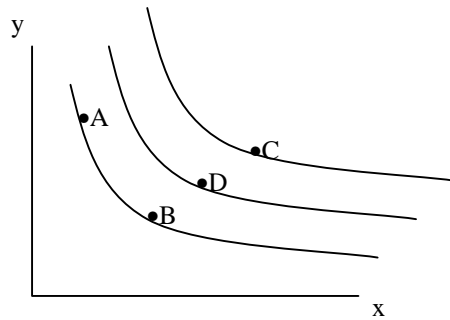
21. What is the equilibrium price and quantity?
- $P = 20, Q = 30$
 - $P = 30, Q = 30$
 - $P = 24, Q = 42$
 - $P = 28, Q = 10$
 - $P = 30, Q = 60$
22. What is the cross-price elasticity of demand for light bulbs with respect to lamps at the equilibrium?
- 2
 - 2
 - $\frac{1}{2}$
 - $-\frac{1}{2}$
 - $-\frac{2}{3}$
23. What is the income elasticity of demand for light bulbs at the equilibrium?
- 1.5
 - $\frac{3}{4}$
 - $\frac{4}{3}$
 - $\frac{1}{2}$
 - $\frac{2}{3}$
24. The price of a substitute for good X rises and we observe that the equilibrium price of good X rises, but quantity does not change. Which of these is consistent with this evidence.
- The demand curve is perfectly inelastic and the supply curve is upward sloping
 - The supply curve is perfectly elastic and the demand curve is downward sloping.
 - The supply curve is perfectly inelastic and the demand curve is downward sloping.
 - Supply also increased.
 - Nothing, this violates the law of demand.



Use above graph to answer questions 25-27. (You may assume that all near intersections are actually intersections. For instance, S_1 intersects the demand curve at a price of 14 and a quantity of 6).

25. What is the deadweight loss if the government imposes a price floor of \$14?
- a. 48
 - b. 7.5
 - c. 60
 - d. 24
 - e. 27
26. Suppose the government imposes a unit tax equal to the distance between S_0 and S_1 . What is the tax revenue?
- a. 24
 - b. 48
 - c. 32
 - d. 36
 - e. 72

- 27 What is the Producer Surplus with no taxes or price floors?
- 12
 - 24
 - 48
 - 96
 - 32
- 28 What assumption about preferences allows us to say that if $A > B$, $B > C$, then $A > C$
- Transitivity
 - Completeness
 - Free disposal (more is at least as good)
 - Duality



- 29 Which of the following is a correct ordering of the above preferences? (Refer to the figure above. You may assume that A, B, C, and D are all points on the drawn indifference curves).
- $A > C > D > B$
 - $C > D > A > B$
 - $C > B > D > A$
 - $A > B > D > C$
 - None of the above
- 30 The price elasticity of demand is 5.0 if a 10% increase in the price results in a
- 2% decrease in quantity demanded
 - 5% decrease in quantity demanded
 - 10% decrease in quantity demanded
 - 50% decrease in quantity demanded
31. Tom gets utility from having 3 drinks with every meal. He gets no utility from having drinks without a meal, or having meal without at least 3 drinks. His utility is best described mathematically by:
- $U = 3D + M$
 - $U = \min\{3D, M\}$
 - $U = 3 \cdot D \cdot M$
 - $U = 1/3D + M$
 - $U = D + 3M$

32. The price of batteries has increased. As a result, the quantity of batteries supplied will:
- Increase
 - Remain unchanged
 - Decrease
 - Not enough information
33. A good with an income elasticity of -3 , can be described as
- normal
 - a substitute
 - a complement
 - inferior
 - inelastic
34. A tax increase in which of these markets is most likely to be passed on to consumers in the form of higher prices?
- Coke
 - Ruffles potato chips
 - Heart transplants
 - Red ink pens
35. Along an indifference curve
- the marginal rate of substitution is constant
 - the consumer does not prefer one consumption bundle to another.
 - the marginal rate of substitution is equal to 1.
 - all consumption bundles are affordable.
 - The consumer prefers some of the consumption points to others.

