

You may use your class notes, your textbook, and any other written material that you find useful. However, you may not work with anyone else or consult anyone else when answering the questions, including other faculty members or other students.

(10 points) Answer both of the following essay questions (write only on the paper provided):

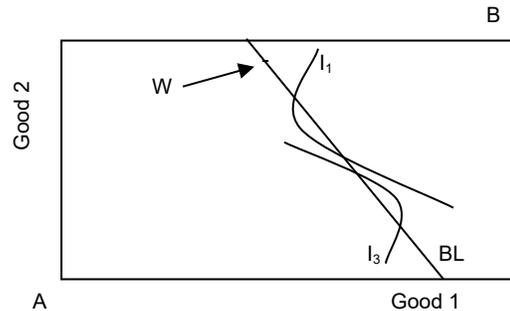
1. Using an Edgeworth Exchange Box (graph), carefully define what is meant by the term “Pareto optimal”. What is the contract curve in an Edgeworth Exchange Box? Given the initial endowments at a point such as W within the Edgeworth Exchange Box show all the points where possible trade could occur. Briefly explain your answers.

2. Briefly define with words three concepts: (change in) consumer surplus, compensating variation, and equivalent variation. How are these three concepts similar? How do these three concepts differ? For a price increase, show graphically how to calculate each of the three. Briefly explain your graphs.

(15 points) Answer all of the following 15 multiple-choice questions. Make sure that your answers are coded in the answer sheet provided.

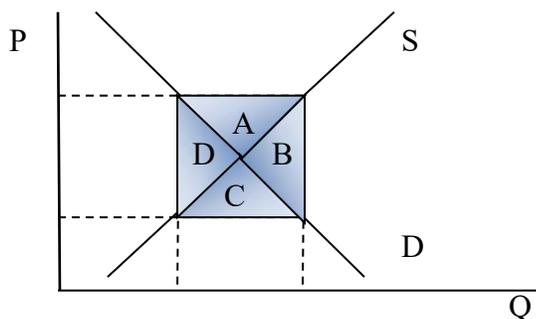
1. Net Surplus equals:
 - A. Total utility minus total cost of consuming the good.
 - B. Net consumer surplus plus net producer surplus.
 - C. Equivalent variation plus compensating variation.
 - D. Equivalent variation minus compensating variation.
2. Which of the following statements are true?
 - I. The inverse demand curve $P(x)$ for a good x measures the price per unit at which the quantity x would be demanded.
 - II. Suppose that the price elasticity of demand for barley is elastic at all higher prices. In this case, when quantity demanded falls then total revenue will rise.
 - A. both statements are true.
 - B. both statements are false.
 - C. I is true while II is false.
 - D. I is false while II is true.
3. Which of the following statements are true?
 - I. A condition is only Pareto optimal if no one can be made better off.
 - II. Consumers always pay the full amount of any tax regardless of their price elasticity of demand.
 - A. Both statements are true.
 - B. Both statements are false.
 - C. I is true while II is false.
 - D. I is false while II is true.
4. The inverse demand function for grapes is described by the equation $p = 518 - 5q$, where p is the price in dollars per crate and q is the number of crates of grapes demanded per week. When $p = \$38$ per crate, what is the price elasticity of demand for grapes?
 - A. $-190/96$
 - B. $-5/518$
 - C. $-5/96$
 - D. $-96/38$
 - E. $-38/480$
5. When the price of bananas is 50 cents a pound, the total demand is 100 pounds. If the price elasticity of demand for bananas is -2 , what quantity would be demanded if the price rose to 60 cents a pound?
 - A. 50 pounds.
 - B. 90 pounds.
 - C. 60 pounds.
 - D. 80 pounds.
 - E. 70 pounds.
6. When the price of a good changes, then Compensating Variation equals
 - A. The difference between a consumer's reservation price and actual price.
 - B. The amount of money needed to move a consumer back to his original indifference curve with the new prices.
 - C. The amount of money needed to move a consumer to his new indifference curve with the old prices.
 - D. The amount of money needed to move a consumer back to his original indifference curve with the old prices.
7. Which of the following statements are true?
 - I. The last units consumed tend to create the most consumer surplus.
 - II. Compensating Variation for a price increase equals Equivalent Variation for a price decrease.
 - A. both statements are true.
 - B. both statements are false.
 - C. I is true while II is false.
 - D. I is false while II is true.

Use the Following Graph to Answer Question 8



8. Individuals A and B are currently at their endowment point W. Assume both A and B have convex preferences. The line labeled "BL" is their budget line at current market prices. Which of the following statements is true?
 - A. At current market prices a competitive equilibrium exists.
 - B. P_1 must increase and P_2 must decrease for an equilibrium to exist.
 - C. P_1 and P_2 must both decrease for an equilibrium to exist.
 - D. P_1 must decrease and P_2 must increase for an equilibrium to exist.

Use the following graph to answer Question 9



9. The deadweight loss of a tax imposed on a good is shown in the graph above by the area of the triangle:
- A.
 - B.
 - C.
 - D.
10. Which of the following is not required for a demand and supply equilibrium to be stable? When market price is:
- below the equilibrium price the resultant surplus causes price to rise.
 - above the equilibrium price the resultant surplus causes price to fall.
 - equal to the equilibrium price then no surplus or shortage exists and the market price remains constant.
11. In a two good exchange economy with two individuals, A and B, the net demand for good 1 equals:
- The quantity individual A demands of good 1 given prices.
 - The quantity individual B demands of good 1 given prices.
 - The quantity both individual A and B demands of good 1 given prices.
 - None of the above.
12. Which of the following statements are true?
- In a three good economy, Walras' law implies that if demand equals supply in one market, then demand must equal supply in the other two markets.
 - In a two good exchange economy, if a competitive equilibrium exists when $P_1 = 24$ and $P_2 = 15$ then a competitive equilibrium must also exist when $P_1 = 4$ and $P_2 = 2$.
- Both statements are true.
 - Both statements are false.
 - I is true while II is false.
 - I is false while II is true.
13. In which of the following situations will trade not be beneficial to both parties?
- $MRS_A = -20$ while $MRS_B = -4$.
 - $MRS_A = -4$ while $MRS_B = -20$.
 - For A $MU_1 = 20$ and $MU_2 = 100$; For B $MU_1 = 100$ and $MU_2 = 500$.
 - For A $MU_1 = 30$ and $MU_2 = 40$; For B $MU_1 = 30$ and $MU_2 = 50$.
 - Trade is beneficial in all of these situations.
14. Which of the following statements are true?
- A consumer's reservation price shows the minimum price he would be willing to pay for a given quantity of the good.
 - An individual's demand always exactly equals their marginal utility .
- Both statements are true.
 - Both statements are false.
 - I is true while II is false.
 - I is false while II is true.
15. The Second Theorem (Law) of Welfare Economics implies that if society wishes to change the current market equilibrium to benefit a particular consumer or consumers then the most efficient method of achieving the desired outcome is to:
- Change relative prices but not initial endowments (wealth).
 - Change both relative prices and initial endowments.
 - Change initial endowments but not relative prices.
 - Change neither relative prices nor initial endowments.