ECB 201: Principles of Microeconomics, Midterm Exam 1 Answers

October 19, 2023

Name and section: ______________________________

Instructions: There are three sections to this exam worth 70 points in total:

- 14 multiple choice questions, (30 points)
- 10 True/false questions, (20 points)
- 4 short answer questions, (20 points)

Clearly mark your answers in the exam book. For True/False questions, if the answer if false, briefly explain why. You may use a calculator but no other resources are permitted.

Multiple choice section: Clearly circle the most correct answer for each question.

1. Consumers expectations change and they now believe that prices for a good will fall one year in the future. What is most likely to happen in the market today?

   A. **Demand will decrease**

   B. Demand will increase

   C. Quantity demanded will decrease

   D. Quantity demanded will increase

   E. Demand remains constant but supply decreases

   Consumption in the future acts like a substitute for consumption today. If the price of a substitute falls, the demand will decrease

2. Firms seek to maximize their ______________ while consumers seek to maximize their ______________

   A. Revenue; Marginal Utility

   B. Profits; Marginal Utility

   C. Revenue; Total Utility

   D. **Profits; Total Utility**

   E. Profits; Total Wealth

3. A consumer spends all of their income on a bundle containing some amount of two goods: x and y. Their marginal utilities per dollar is 11 for the last unit of x and 8 for the last unit of y. To maximize their utility subject to their budget constraint, the consumer should:

   A. Consume more y and less x

   B. **Consume more x and less y**

   C. Consume more of x and the same amount of y

   D. They are already maximizing their utility

   E. There is not enough information to determine the answer

   If the marginal utility of x per dollar is greater than the marginal utility per dollar for y, they are not maximizing their utility and they can increase it by 'selling' a little bit of y and buying more of x. They cannot bey more of both since they are already using all of their budget.

4. An economist for Sheetz Inc. estimates the cross price elasticity for hot dogs and Mt. Dew to be -.5. This means that the two goods are:

   A. **Compliments**

   B. Substitutes

   C. Inelastic pairs

   D. Normal goods

   E. Inferior Goods

   A negative cross price elasticity means that as the price of one good goes up, the quantity demanded of the other good falls, making them complements.

5. A firm that sells one product raises their prices by a small amount and finds that they sell fewer units of their product overall but their revenue has increased. Which of the following is the most likely value of the elasticity of demand for their product?

   A. 0

   B. **$-\frac{1}{3}$**

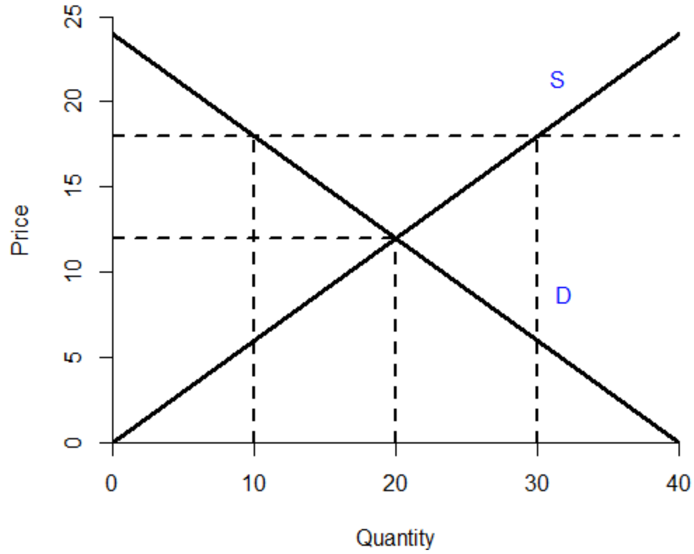
C. -1

D. -2

E. $-\infty$

The quantity falls, but by a lower percentage than the price rises. The good must be inelastic

6. Use the graph below to answer the following question:



What is the result of a price floor set at \$ 18.00 in this market?

A. A shortage of 20 units

B. **A surplus of 30 units**

C. A surplus of 20 units

D. A shortage of 10 units

E. A shortage of 30 units

7. The law of diminishing marginal returns states that

A. The marginal product of a resource is always diminishing

B. **The marginal product of a resource will eventually be diminishing**

C. Firms must lower prices to gain customers

D. Consumers enjoy goods less as they consume more of them

E. Inflation makes the value of savings decrease over time

8. The market for pickleball paddles is initially in equilibrium. The price of polymer honeycomb cores, a component to manufacture paddles, increases and the price of tennis racquets, a substitute for pickleball paddles, decreases. Relative to the initial equilibrium in the market for pickleball paddles, we can predict that:

A. The quantity will increase but we cannot predict the price.

B. **The quantity will decrease but we cannot predict the price.**

C. The price will increase but we cannot predict the quantity.

D. The price will decrease but we cannot predict the quantity.

E. There is insufficient information to predict either price or quantity.

9. Newspaper vending machines, from which customers could take more than one paper for the same amount of money if they so desired, illustrate the publishers' belief that the:

   A. average utility for two identical newspapers is zero or less.

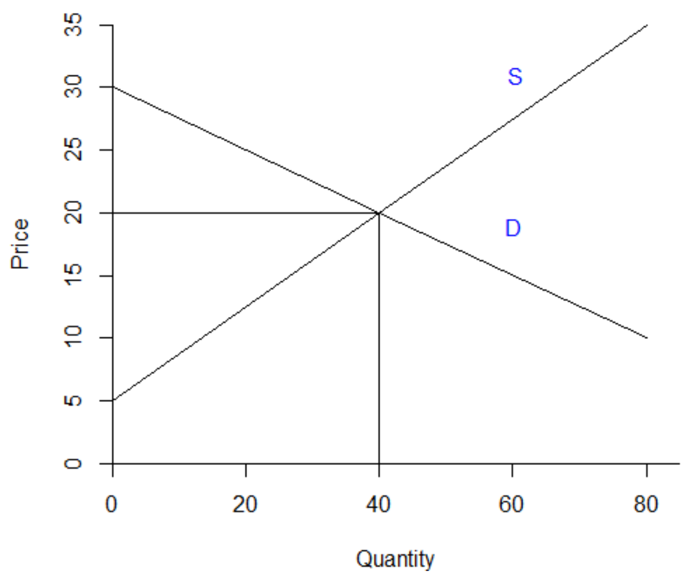
   B. total utility from two identical newspapers is zero or less.

   C. **marginal utility for a second identical newspaper is zero or less.**

   D. marginal utility of a second identical newspaper is greater than the marginal utility of the first newspaper .

   E. the marginal utility from each newspaper is constant.

10. Use the graph below to answer the next question



Assuming the market is in equilibrium, what is the value of producer surplus?

   A. \$ 600

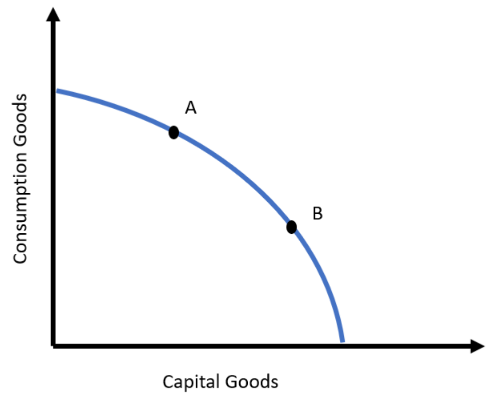
   B. \$ 400

   C. \$ 200

   D. \$ 500

   E. **\$ 300**

11. Use the PPF below to answer the following question: Relative to point A, if this economy produced at point B...



    A. The economy would be more efficient
    B. There would be greater surplus
    C. **The economy would grow faster**
    D. The dead-weight loss would decrease
    E. The economy would be closer to optimal production

12. Netflix runs a survey to determine a new show's quality by asking those who finish the 20th and final episode to give it a star rating out of 5. The average rating these viewers give is 4.7/ 5 so Netflix concludes the show is very high quality. What fallacy may they be committing?
    A. **Ignoring selection bias**
    B. Ignoring Secondary Effects
    C. The Fallacy of Composition
    D. Post hoc ergo propter hoc
    E. Identifying association as causation

13. Sony expects that demand for PlayStation 5s will increase next year, causing prices to rise. What is the most likely result of this in the market for PlayStation 5s today?
    A. Supply will increase
    B. **Supply will decrease**
    C. Supply remains constant but quantity supplied will increase
    D. Supply remains constant but quantity supplied will decrease
    E. Insufficient information

14. An economist estimates the income elasticity of demand for apples to be -$\frac{1}{4}$, this means that apples are a...
    A. Normal good
    B. Giffen good
    C. Luxury good
    D. **Inferior good**
    E. Elastic good

True or False section. For each question, indicate whether the statement is true or false; if false, briefly explain why.

1. The Economic decision makers in our models think 'on the margin' and ignore sunk costs. **True**

2. In the market for rental properties at a ski resort, the quantity demanded is high in the winter when prices are high and the quantity demanded is low in the summer when the price is low; This violates the Law of Demand **False, outside factors, (like the season changing,) are shifting the entire demand curve**

3. Firms' marginal costs always eventually increase because the marginal product of their inputs eventually decrease **True**

4. A gambler pawns a valuable piece of memorabilia he does not own to wager on a game he believes he has inside information on, making the bet a sure thing.[1] Although this is certainly unwise, an economist would not consider this to be irrational. **True**

5. Governments may solve surpluses caused by high price floors by buying and destroying some of the goods produced. **True**

[1] 1 bonus point if you can name two movies in which this is a major plot point.

6. The demand for mountain bikes is likely to be relatively inelastic compared to the demand for all bicycles **False, they would be relatively elastic as they are a subcategory of all bicycles**

7. Suppose a consumer spends all of their income on a bundle of two goods: x and y. If they are maximizing their utility, $MU_x = MU_y$ **False,** $\frac{MU_x}{p_x} = \frac{MU_y}{p_y}$

8. If a company estimates that the demand for their product at the current price is inelastic, they should cut prices to increase their total revenue. **False, they should increase their prices to increase total revenue**

9. Opportunity cost is the value of the next best option given up when making a decision **True**

10. A price floor always results in a market being out of equilibrium **False, if the price floor is below the equilibrium price, it will not be relevant**

Short answer section. Briefly address each question; a sentence or two is sufficient

1. A convenience store chain sells 50 donuts per store per day for $2.00 each. They run a promotion cutting the price to $1.50 and sell 64 donuts per store per day. Calculate the elasticity of demand for donuts. What should the company do to maximize their revenue?

   The elasticity is - .85 making the good inelastic at this part of its demand curve. Because it is inelastic, the company would maximize their revenue by increasing prices.

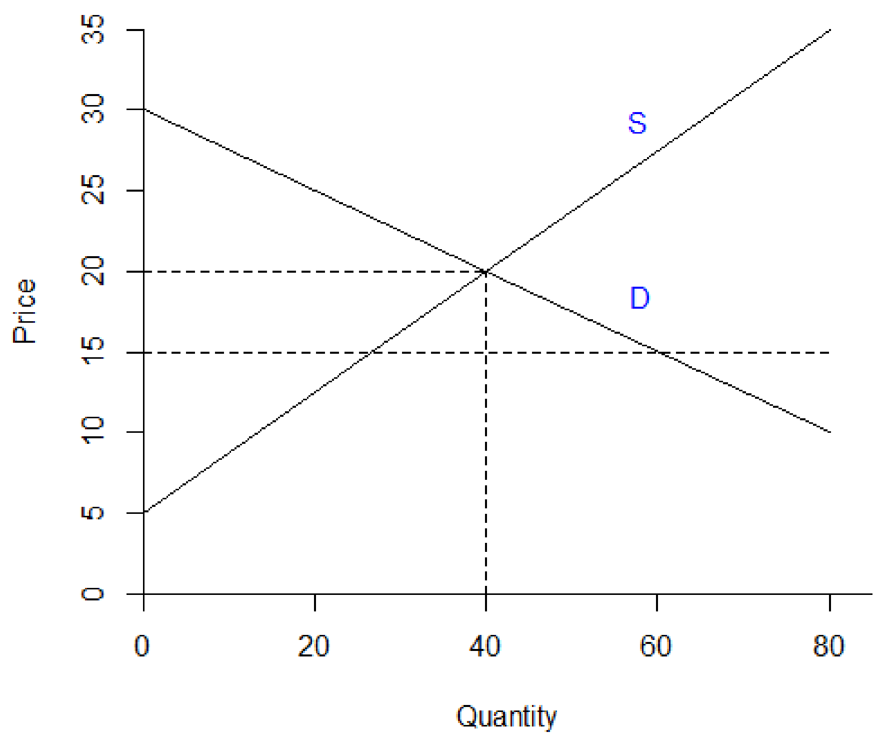
2. Assume that demand increases in a market making the new equilibrium price $20. Sellers do not immediately know that demand has shifted and continue to sell their product at the previous equilibrium price, $15, for the moment. Briefly describe what will make the market price rise over time to the new equilibrium price.

   At $15, there is a shortage and more customers want to purchase than the producers are willing to supply. Producers always want to sell at a higher price. Some of those consumers who do not get the good are willing to pay a higher price to acquire it; they're rather have it at a higher price than not get it at all. Both buyers and sellers "prefer" higher prices so they will "agree" to increase them.

3. Sketch the demand curve for a necessity like insulin where those who need it consume a fixed amount and those who do not need it get no utility from consuming it. Briefly describe, in a sentence or two, why the demand curve is shaped like this.

The demand curve should be a vertical line. The quantity demanded would not change regardless of if the price changes

4. Suppose that, in the market shown in the graph below, a price ceiling is imposed at $15. On the graph below, shade in the area representing dead-weight loss as a result of this policy, if there is any.



The dead-weight loss is the 'loss' in welfare that could have been gained if more was produced. The loss is measured by the area of the triangle bounded above by demand, below by supply, and to the left by a vertical line at the quantity of 20