

**Midterm**

Microeconomics - EC 2106

Instructor: Robert McNab

Name: \_\_\_\_\_

Email: \_\_\_\_\_

Score: \_\_\_\_\_

**INSTRUCTIONS:** Please answer all questions to the best of your ability within the allotted time of 120 minutes. You are required to show your work to receive credit. For multiple choice and true/false questions, please circle the most accurate answer. 100 possible points.

Part I: 40 Points

1. Indicate whether the following statements represent a normative (N) or positive (P) statement. One point apiece.  

P N The United States has a progressive income tax.

P N Instead of using the Federal budget surplus to 'save social security', Congress should lower personal income taxes.

P N The introduction of the new European currency is likely to lower costs for European firms.
  
2. T F A positive cross-price elasticity between two goods means that the two goods are complements.
  
3. T F Production possibilities frontiers are typically concave (bow away from the origin) due to constant production returns.
  
4. Assume that in May 1999 that the average price of Pentium III 450 MHz computer chips was \$425, with a resulting quantity demanded of 1.5 million chips. In June 1999, the average price of Pentium III 450 MHz computer chips fell to \$400, with a resulting quantity demanded of 2.0 million chips. What was the price elasticity of demand for Pentium III 450 MHz computer chips during May and June of 1999?  
  
\_\_\_\_\_
  
5. All else remaining equal, if production technology increases:
  - a. Demand Increases
  - b. Supply Increases
  - c. Demand Decreases
  - d. Supply Decreases
  - e. Quantity Supplied Decreases

6. A consumer maximizes their satisfaction when:
- Marginal utility is equal to zero
  - Marginal utility divided by price is equal for all goods
  - Marginal utility divided by price is equal for all goods and income is exhausted
  - Marginal utility divided by total utility is equal for all goods and income is exhausted
  - Marginal utility divided by price is unequal
7. T F The law of diminishing marginal utility can be interpreted as saying ‘as you acquire more of a good, all else remaining equal, the more value you place on additional units of that good.’
8. Assume that you determine that the cross price elasticity between your product and another firm’s is -1.50. If the other firm increases the price of their product by 3%, all else remaining equal, the quantity demanded for your product will:
- Increase by 1.5%
  - Decrease by 1.5%
  - Increase by 4.5%
  - Decrease by 4.5%
  - None of the above
9. Demand curves slope downward, in part, due to:
- Law of diminishing marginal utility
  - Law of increasing marginal utility
  - Law of diminishing marginal returns to production
  - Theory of Downward Sloping Demand
10. T F As a supply curve becomes ‘flatter’, price elasticity of supply increases, that is, becomes more elastic.

Part II: 60 Points

11. The City of Atlanta is currently considering enacting a rent control policy to assist lower income families in finding affordable housing. Currently, the average apartment in the City of Atlanta is 800 square feet and rents for \$900 a month with 15,000 apartments rented on a monthly basis. The City is considering a maximum rent of \$500 a month as one of the potential policy options. In the space provided below, explain and then illustrate, the impact of this proposed policy. 10 points.



15. In your own words, explain the difference between changes in demand and changes in quantity demanded. 10 points

## Answer Key

1. P, N, P
2. F
3. F
4. 4.6
5. B
6. C
7. F
8. D
9. A
10. T

## Part II

11. If the policy is implemented, a shortage of apartments will result, with the remaining apartments on the market being poorly maintained and a side market in payments (bribes, etc) arising. The student will need to illustrate a shortage due to a price ceiling.
12. Since the price elasticity of demand for your product is less than 1, then if you increase price, quantity demanded will decline, however, total revenues will increase as the percentage increase in price is more than enough to offset the percentage decline in quantity demanded.
13. Since  $E_y = 1.5$  and the % change in  $Y = -2\%$ , the percentage change in  $Q_d$ , all else remaining equal, will be  $3\%$  ( $E_y * \% \text{ change } Y$ ). Total revenues will also decline  $3\%$ .
14. If microsoft lowers price  $3\%$ , then since your good complements microsoft, you know that demand for your good will increase.  $E_{cp} = -0.95$  and percentage change  $p = -3\%$ , so percentage change  $Q_d = E_{cp} * \text{percentage change } p = -0.95 * 3\% = 2.85\%$
15. Changes in  $Q_d$  result from changes in price, while changes in demand result from changes in factors other than price, to include taxes, population, income, expectations, tastes, etc.