Practice Midterm #1 Name:_____
Microeconomics - EC 2106
Instructor: Robert McNab Score:_____

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

Section 1: **Basic Comprehension** 20 points

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

P N A proportional income tax taxes individuals at different rates.

P N Increasing the minimum wage is unfairly leads to increases in unemployment for lower-skilled workers and thus is an unjust policy option.

P N The introduction of the new European currency is likely to lower costs for European firms.

2. T F Assume that the price of gold is $320 an ounce in London and $318 an ounce in New York and that transaction costs are equal to 5% of the price per ounce. Is the following statement true or false: Arbitrage would occur between the two markets. 3 points

3. T F The longer the time period considered, the more price elastic are supplies to price changes. 3 points

4. Which of the following statements is most accurate? 4 points

a. All else remaining equal, if supply increases and demand decreases, price will decline and quantity will increase.
b. All else remaining equal, if supply decreases and demand increases, price will increase and quantity will decrease.
c. All else remaining equal, if supply increases and demand increases, price will be ambiguous and quantity will decrease.
d. All else remaining equal, if supply decreases and demand decreases, price will be ambiguous and quantity will decrease.

5. Assume that goods A and B are complements. All else remaining equal, if the price of good A increases, then the demand for good A will: 4 points

a. Remain stable
b. Increase
c. Decrease
d. Demand does not change, Quantity Demanded changes

Section 2: Calculation and Demonstration of Intermediate Knowledge 40 Points

1. When price is $2500, the quantity demanded for 400-MHz computers is 850,000. When price falls to $1000, the quantity demanded increases to 1,250,000. What is the price elasticity of demand for 400-MHz computers? 5 points

2. You have been hired as a consultant for the city of Atlanta and are tasked to provide policy solutions that would help alleviate the low-income housing problem within the city of Atlanta. Using housing data, you determine that the equilibrium rent for 1000 square foot luxury apartments in Buckhead is $1500 a month for 10,500 units rented, while 1,000 square foot luxury apartments near the airport rent for $1200 a month for 5,500 units rented. A motion is before the city council to set the maximum rent for 1,000 (or greater) square foot apartments in the city of Atlanta at $1350 per month. What policy advise would you offer and how would you back up your conclusions? 2 points. 5 points.

3. Assume that the market for computer flight simulation games is in equilibrium at a price of $45 with a equilibrium quantity of 125,000 units sold per month. Your research staff has informed you that the price elasticity for your flight simulation game is estimated at 2.5 while the income elasticity is estimated at .78. Furthermore, they have estimated that the cross-price elasticity between your computer software game and joysticks is -1.4. Answer the following questions based on this information. 10 points

   3.1 Assuming all else remaining equal, should you lower the price of your flight simulation game from $45 to $40? Provide a rationale for your answer. 3 points

3.2 Your sources in Washington D.C. have informed you that personal income is expected to increase by 4% in the coming year. Assuming all else remaining equal, what action should you take based on this information? 3 points

3.3 You receive information that the main producer of joysticks has granted a 30% wage increase to their employees and that the price of joysticks is expected to increase by 10%. All else remaining equal, what impact can you expect this to have on the demand for your product? 4 points.

4. Use the following table to answer the questions posed below. 10 points

United States	20 hours labor = 20 computers 20 hours labor = 3 cars
Mexico	20 hours labor = 4 computers 20 hours labor = 6 cars

4.1 Which country will produce computers and how many computers will be produced? 2 points.

4.2 Which country will produce cars and how many cars will be produced? 2 points.

4.3 What are the gains from trade? 6 points.

Section 3: Demonstration of Learning and Conceptual Knowledge 60 Points

1. Explain in your own words the relationship between comparative advantage and the concept of scarcity. 15 points.

2. In your own words, explain how the substitution and income effects are related to demand. 15 points.

3 In your own words, explain the difference in changes in quantity supplied and changes in supply. 15 points.

4. In your own words, describe the relationship between inferior goods, income, and income elasticity of demand. 15 points

ANSWER KEY
PRACTICE MIDTERM 1

Section 1: **Basic Comprehension** 20 points

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

   Positive A proportional income tax taxes individuals at different rates.

   Normative Increasing the minimum wage is unfairly leads to increases in unemployment for lower-skilled workers and thus is an unjust policy option.

   Positive The introduction of the new European currency is likely to lower costs for European firms.

2. **False** Assume that the price of gold is $320 an ounce in London and $318 an ounce in New York and that transaction costs are equal to 5% of the price per ounce. Is the following statement true or false: Arbitrage would occur between the two markets. 3 points

3. **True** The longer the time period considered, the more price elastic are supplies to price changes. 3 points

4. Which of the following statements is most accurate? 4 points

   All else remaining equal, if supply decreases and demand decreases, price will be ambiguous and quantity will decrease.

5. Assume that goods A and B are complements. All else remaining equal, if the price of good A increases, then the demand for good A will: 4 points

   Demand does not change, Quantity Demanded changes

Section 2: Calculation and Demonstration of Intermediate Knowledge 40 Points

1. When price is $2500, the quantity demanded for 400-MHz computers is 850,000. When price falls to $1000, the quantity demanded increases to 1,250,000. What is the price elasticity of demand for 400-MHz computers? 5 points

Ed = 2.25
Price elastic

2. You have been hired as a consultant for the city of Atlanta and are tasked to provide policy solutions that would help alleviate the low-income housing problem within the city of Atlanta. Using housing data, you determine that the equilibrium rent for 1000 square foot luxury apartments in Buckhead is $1500 a month for 10,500 units rented, while 1,000 square foot luxury apartments near the airport rent for $1200 a month for 5,500 units rented. A motion is before the city council to set the maximum rent for 1,000 (or greater) square foot apartments in the city of Atlanta at $1350 per month. What policy advise would you offer and how would you back up your conclusions? 2 points. 5 points.

If the motion was passed, this would impose a price ceiling in the Buckhead apartment community while it would have no effect on the airport apartment community as the equilibrium price in the airport community is below the price ceiling.

The price ceiling in Buckhead would result in a shortage of apartments as quantity demanded would be significantly greater than quantity supplied. Over the long-term, maintenance and service would suffer for renter in the Buckhead community, leading to a long-term deterioration in property values. It is likely that this policy would not benefit low-income renters and would substantially harm landlords in the Buckhead area.

3. Assume that the market for computer flight simulation games is in equilibrium at a price of $45 with a equilibrium quantity of 125,000 units sold per month. Your research staff has informed you that the price elasticity for your flight simulation game is estimated at 2.5 while the income elasticity is estimated at .78. Furthermore, they have estimated that the cross-price elasticity between your computer software game and joysticks is -1.4. Answer the following questions based on this information. 10 points

   3.1 Assuming all else remaining equal, should you lower the price of your flight simulation game

from $45 to $40? Provide a rationale for your answer. 3 points

Yes, lowering the price from $45 to $40 would induce a greater increase in quantity demanded relative to the percentage decline in price, thus leading to increases in total revenue. Since the student has been given Ed, they should be able to determine the new quantity demanded and illustrate that if Ed > 1 than if Price declines, quantity demanded increases and total revenue increases.

The percentage change in price is = - 11.11% (40-45)/45
Ed = 2.5
The resulting percentage change in quantity demanded is = 27.78% (11.11%*2.5)
The new quantity demanded is = 159,722 (27.78%*125000)+(125000)

Old total revenue = $5625000
New total revenue = $6388889

3.2 Your sources in Washington D.C. have informed you that personal income is expected to increase by 4% in the coming year. Assuming all else remaining equal, what action should you take based on this information? 3 points

If personal income increases by 4%, then we can expected the quantity demanded for our product to increase by 3.12% (4%*Ey) = (4%*0.78).

Based on this information, you should take action to increase production to meet the increase in demand for your product.

3.3 You receive information that the main producer of joysticks has granted a 30% wage increase to their employees and that the price of joysticks is expected to increase by 10%. All else remaining equal, what impact can you expect this to have on the demand for your product? 4 points.

If the price of joysticks increases by 10%, then you could expect the quantity demanded for your product to decline by 14% (10%*-1.4). Given this substantial decrease, you probably would want to decrease production or similar measures.

4. Use the following table to answer the questions posed below. 10 points

United States	20 hours labor = 20 computers 20 hours labor = 3 cars

Mexico	20 hours labor = 4 computers 20 hours labor = 6 cars

4.1 Which country will produce computers and how many computers will be produced? 2 points.

The U.S. will produce computers and will produce 40 computers for 40 hours of labor.

4.2 Which country will produce cars and how many cars will be produced? 2 points.

Mexico will produce cars and will produce 12 cars for 40 hours of labor.

4.3 What are the gains from trade? 6 points.

16 computers and 3 cars

Section 3: Demonstration of Learning and Conceptual Knowledge 60 Points

1. Explain in your own words the relationship between comparative advantage and the concept of scarcity. 15 points.

Since all resources are scarce, countries should act to minimize the opportunity costs of production. By concentrating in the production of those goods and services which they can produce at the lowest relative opportunity cost, countries can then trade these relatively inexpensive goods (for them) to other countries for relatively more expensive goods. In this manner, opportunity costs are minimized while output is maximized.

2. In your own words, explain how the substitution and income effects are related to demand. 15 points.

As the relative price of a good increases, people substitute away from the good to relatively inexpensive goods, and thus the demand for the good being substituted to increases.

As the relative price of a good declines, you are able to consume the same amount of the good as you did previously and consume more of other goods.

3 In your own words, explain the difference in changes in quantity supplied and changes in supply. 15 points.

Price changes quantity. Movement along the curve.
Other factors (taxes, number of supplies, expectations) change supply. Shift of the entire curve.

4. In your own words, describe the relationship between inferior goods, income, and income elasticity of demand. 15 points

As income increases, the demand for inferior goods declines. This is illustrated by the negative income elasticity measure.