ECON 360: Intermediate Microeconomics

PRACTICE Midterm Exam, Summer 2024

- Define any variables you need to answer the problems.

- All materials except for your cheat sheet should be put away before beginning the exam. Use of cell phones during the exam for any purpose is forbidden.

- Please write your answers in the space provided.

- Keep your answers short but clear. Your goal is to convince a skeptical grader that you understand the relevant concepts well enough to answer the question you are given.

- The questions on the exam sum to 59 points.

- Sample Point Breakdown is NOT Exact, Simply tentative information for your exam.

1. (4 points) What is your name?

1   True/False Questions

Indicate "T"rue or "F"alse for each of the following statements or claims. For each false statement, if you correctly and clearly explain why it is false, I will give you a bonus point. No explanations necessary for claims or statements. which you think are true.

2. (2 points) My grandma loved cats, but her house was only so big. Her utility increased anytime she got another cat, so long as the total number of cats was less than or equal 20. If she got a 21st cat, her utility decreased. **Claim:** You could not write a utility function that represents my grandma's preferences.

3. (2 points) **Claim**: If consumers preferences are very different for a particular good, it is still correct to aggregate their individual demands into a market demand curve.

4. (2 points) Maddie walks into the farmers market with a bundle of 4 zucchinis and 3 peaches, and the price of zucchinis is $2 and the price of peaches is $4. She comes back the next day with the same bundle, but she finds the price of her zucchinis has increased from $2 to $3. **Claim**: If she bought zucchini when the price was $2, the only way for Maddie to satisfy WARP as we have learned in class is to sell zucchinis.

5. (2 points) Consider an endowment economy where you start off 3 blueberries and 4 strawberries **Claim**: If you do not have well behaved preferences, it could be utility maximizing to be a net seller of both blueberries and strawberries.

6. (2 points) Define the passthrough rate as the percentage of an excise tax the producer adds to the price of the product a consumer pays. For example, if the excise tax is $2, and the producer raises the price consumers pay by $1, the passthrough rate is 50%.
   Claim: The passthrough rate could never be 100%.

2 Multiple Choice Questions

Circle the best answer to each question. There is only one answer for each question. No explanation necessary.

7. (2 points) You are trying to figure out Bill's preferences for zucchini and goat cheese. You ask him how much zucchini and goat cheese he would choose to buy for different prices and wealth, and you record his answers. You notice that when the price of zucchini goes up, Bill buys less goat cheese. When the price of goat cheese goes down, Bill buys more zucchini. Which best describes goat cheese and zuccini based on Bill's choices?

   A. Perfect substitutes

   B. Substitutes

   C. Complements

   D. Unrelated goods

8. (2 points) You are a politician, and you need to raise funds to build a local park. You decide to add a tax on soda purchases in your town, but you realize voters, who purchase soda, are much more likely to complain than stores which sell soda. Specifically, consumers will complain if they have to pay more of the tax than stores. Which of the scenarios below will avoid these complaints?

   A. Demand is more inelastic than supply.

   B. Supply is more inelastic than demand.

   C. The tax incidence will be the same regardless of relative elasticities.

   D. You cannot predict who pays more of the tax from relative elasticities.

9. (2 points) How would an economist interpret your decision to take this exam based on what we have learned in class?

   A. You feel like you are forced to take this exam.

   B. You must prefer taking this exam to not taking this exam.

   C. You have a stated preference for taking this exam to not taking this exam.

   D. You have indirectly revealed you prefer taking this exam to not taking this exam.

10. (2 points) Bill has well-behaved preferences. Therefore, which bundle could not possibly be on the same indifference curve as the bundle (5,3)?

   A. (6,2)

   B. (1,9)

   C. (6,4)

   D. (3,5)

11. (2 points) You win a TikTok giveaway, where you receive your cash prize over two separate time periods, and the interest rate is r. Let's call the prize in period 1 p_1 and the prize you recieve in period 2 p_2. You decide to spend all of it in period 1, which means you get a loan from a friend since you have not yet received your second prize payment in period 1. Your friend still charges you interest. What is the maximum you can spend in period 1 without defaulting on your loan to your friend?

   A. $p_1 + p_2(1 + r)$

   B. $p_1(1 + r) + p_2$

   C. $\frac{p_1}{1+r} + p_2$

   D. $p_1 + \frac{p_2}{1+r}$

3   Short Answer Questions

These questions all require an explanation. Remember you are trying to convince me you understand the why and the how of what you are doing, not simply getting the answer correct. Cite specific concepts from class in your answers for full credit.

12. In the summer, the Dunkin' Donuts on campus gives out its leftover donuts at the end of the day to avoid it going to waste. Dunkin' is the only seller of donuts on campus.

    (a) (4 points) Draw a demand and supply graph for the donut market on campus. Illustrate the equilibrium price and quantity

    (b) (4 points) Based on what have talked about in class, is the donut market in equilibrium during the summer? Also illustrate your answer in your graph above.

(c) (2 points) What could Dunkin' Donuts do to bring the market back into equilibrium without changing their supply curve?

(d) (2 points) Suppose I used to eat the leftover Dunkin' donuts, but now that I got that sweet raise and my income increased, I eat less of the leftover donuts. Based on what what we have learned in class, which type of good is this, and how do you know?

(e) (2 points) Suppose Dunkin begin charging $0.10 for a leftover donut, rather than giving them out for free. After the price change, Dunkin actually gets rid of more of their leftover donuts than when they gave them away for free. Based on what we have learned in class, which type of good is this and how do you know?

13. (3 points) Based on what we have learned in class in terms of costs and benefits, why would someone choose to attend college even if they had to take out loans in order to pay for college?

14. Bob and Dylan are trading Coke and Pepsi. Bob brought 12 Cokes, and Dylan brought 12 Pepsis. Bob has well-behaved preferences over Coke and Pepsi, and Dylan is always willing to trade 1 Coke for 1 Pepsi.

    (a) (4 points) Write down 1 utility function for Bob's preferences, and 1 utility function for Dylan's preferences. Explain why your utility function represents each of their preferences.

    (b) (4 points) On the graph below, draw the Edgeworth Box based on the in-

formation above. Clearly label the endowment point, as well as axes and which person is at each origin. No explanation necessary.

(c) (6 points) Are there any Pareto improvements for Bob and Dylan over their endowments? If so, indicate them on yout Edgeworth Box above and explain why they are Pareto improvements. If no, explain there are no such Pareto improvements.

15. (4 points) Lisa runs a coffee company, and it costs her $1 to make each cup of coffee. When the price is $5, Lisa sells 100 cups of coffee. When the price changes to $2, it still costs Lisa $1 to make each cup of coffee, and Lisa sells 80 cups of coffee. What is the dollar value of the loss in welfare to Lisa due to the price change? Show your work.