Wilfrid W. Csaplar Jr., Ph.D. Economics 301 Exam #2 2022/10/4

Write your name on the cover of the test booklet and nowhere else. Enclose this sheet with the booklet. Failure to follow these directions will cost you 1 point. The test has 100 points (to be scaled up to 160 points) and is scheduled to take 50 minutes. Therefore, expect to spend 1 minute for every 2 points. For example, a 12-point question should take 6 minutes. I cannot give extra time because some students have a class after your class.

1) (12 points) Answer EITHER Part A OR Part B.
A) Suppose you were offered to play a game where if a coin is flipped and it turned out to be heads, you earned \$10. If it was tails, you would get \$20. What are the expected payoff and the standard deviation? Show all work. If it cost \$14, would you be willing to play? State your reasoning.
B) Suppose you were offered to play a game where if a coin is flipped and it turned out to be heads, you earned \$100. If it was tails, you would get \$0. What are the expected payoff and the standard deviation? Show all work. If it cost \$45, would you be willing to play? State your reasoning.

2) (16 points) Answer EITHER Part A OR Part B.
A) Write the equation which relates marginal revenue to the own-price elasticity. Use it to explain why firms will not want to sell in the inelastic part of the demand curve.
B) Explain why there may be a problem identifying the shape of the demand curve, and its elasticity.

3) (24 points) Answer EITHER Part A OR Part B.
A) Draw an indifference curve/budget constraint diagram for suits and dresses. Have the initial price of a dress be \$100/dress and the price of a suit be \$150/suit. Also, have your disposable income be \$600. Find how many of each you will buy. (If you do not wear one of them, assume you are buying it as a gift.) Draw an increase in the price of a dress to \$200/dress. Explain why the curve(s) moved as drawn. Find the new consumption point. Use that to draw two points on the price-consumption path and two points on the demand curve. State how you got the points on the demand curve. Given your diagrams, are suits and dresses substitutes or complements? Explain your logic.
B) Draw an indifference curve/budget constraint diagram for pumpkins and apples. Have the initial price of a pumpkin be \$3/pumpkin and the price of an apple be \$2/apple. Also, have your disposable income be \$30. Find how many of each you will buy. Draw an increase in the your income to \$36. Explain why the curve(s) moved as drawn. Find the new consumption point. Use that to draw two points on the price-consumption path and two points on the Engle Curve. State how you got the points on the Engle Curve. Given your diagrams, are they both normal or is one of them inferior? Explain your logic.

4) (24 points) Answer EITHER Part A OR Part B.
A) Suppose your utility function for raisins, R, and cashews, C, is given by $U(C, R) = C^3R$. The price of a box of raisins costs \$2/box and the cost of a box of cashews is \$3/box. If your income is \$64, then how much of each would you buy to maximize your utility? Show all work.
B) Draw an indifference curve/budget constraint for steak and potatoes. Illustrate the effects of a decrease in the price of potatoes. Explain why the curve(s) moved as drawn. Now put in a new line to represent the budget constraint for calculating the Laspeyres Price Index. Explain how you got that line, how you would find the new price index, and how it shows that it overestimates the costs of inflation.

5) (24 points) Answer EITHER Part A OR Part B.
A) Draw the indifference curve/budget constraint for cell phones and landline phones. Illustrate the

effects of a decrease in the price of a cell phone. Explain why the curve(s) moved as drawn. Add the necessary line(s) to find the income and substitution effects. State why your graph changed as drawn and how you see the income and substitution effects. As drawn, are they substitutes or complements? How can you tell? As drawn, are either of them inferior? How can you tell?

B) Draw an indifference curve/budget constraint diagram for potatoes and steak. Draw an increase in the price of potatoes. Draw the movement such that potatoes are Giffen Goods. Explain why the curve(s) moved as drawn. Explain how your graph shows that potatoes are Giffen Goods. Draw the necessary lines to find the income and substitution effects. Explain how you found the two effects and how you know that potatoes are inferior goods.