Economics 101 Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Spring 2020

Quiz #5 with answers

3/5/2020 TA/Discussion Section Number \_\_\_\_\_\_\_\_\_\_\_\_\_\_

All quizzes will be graded on a 10 point scale: you will get two points simply by being on time to class and putting your name on the quiz for that day. The remaining eight points are based upon your answers to the quiz questions.

1. Consider the demand for bananas that is given by the following equation where P is the price per unit of bananas and Q is the number of units of bananas:

Demand for Bananas: P = 10 – 2Q

a. (2 points) In the space below write the general equation for the arc price elasticity of demand using the standard symbols we used in class.

Answer:

Arc Price Elasticity of Demand = absolute value of [(Q2 – Q1)/(Q2 + Q1)]/[(P2 – P1)/(P2 + P1)]

b. (2 points) Suppose the price of bananas increases from $2 per unit to $4 per unit. Given this demand curve calculate the price elasticity of demand between these two points. Use the arc elasticity measure to calculate this elasticity. Show your work to get full credit. It is fine to leave your answer as an improper fraction.

Answer:

If P = $2 then, Qdemanded = 4 units.

If P = $4 then, Qdemanded = 3 unit.

Price Elasticity of Demand = absolute value of [(Q2 – Q1)/(Q2 + Q1)]/[(P2 – P1)/(P2 + P1)]

Price Elasticity of Demand = absolute value of [(3 - 4 )/(3 + 4)]/[(4 - 2)/(4 +2)]

Price Elasticity of Demand = absolute value of [-1/7]/[2/6]

Price Elasticity of Demand = (1/7)(1/3) = 1/21

c. (2 points) Interpret the price elasticity of demand number you got in answer (b): is demand elastic or inelastic between these two points? What does it mean for demand to be inelastic or demand to be elastic?

Answer:

Demand is inelastic between a price of $2 per unit and a price of $4 per unit given this demand curve. This means that consumers are not price sensitive: a percentage change in price results in a small percentage change in the quantity demanded measured in absolute value terms. Anytime the absolute value of the price elasticity of demand measure is greater than one, demand is elastic. Anytime the absolute value of the price elasticity of demand measure is less than one, demand is inelastic.

2. (2 points) You are told that the cross price elasticity of demand of good X for good Y is equal to 2. What does this numeric measure tell you about the relationship between Good X and Good Y?

Answer:

Good X and Good Y are substitutes: if the price of Good Y increases, then the quantity demanded of Good X also increases. For example, consider peanuts and pretzels: when the price of peanuts goes up the quantity demanded of peanuts decreases, and this results in a greater demand for pretzels, a substitute good. A positive cross price elasticity measure tells us that the percentage change in the quantity demanded of Good X moves in the same direction as the percentage change in the price of Good Y.