Econ 102 Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Summer 2013

Answers to Quiz #2

Please write all answers neatly and legibly.

1. (2 points) Suppose the market demand and supply curves for a market are initially given by the following equations:

Market Demand: Q = 20,000 – 10P

Market Supply: Q = 50P – 10,000

where Q is the market quantity and P is the price per unit. Suppose something happens in this market such that the market, once it adjusts to this event, finds itself at a new equilibrium price of $800 and a new equilibrium quantity of 12,000 units. Which of the following (circle your preferred answer) is most likely the cause of this new equilibrium?

* 1. The market demand curve shifted.
  2. The market supply curve shifted.

1. (2 points) Suppose the market for coffee beans is initially in equilibrium. Suppose that simultaneously bad weather destroys much of this year’s coffee bean crop and a report by the Surgeon General reports that drinking coffee is hazardous to your health. Given this information and holding everything else constant,
   1. The equilibrium price of coffee beans will \_\_\_\_be indeterminate\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ relative to the initial equilibrium price.
   2. The equilibrium quantity of coffee beans will \_\_\_\_\_\_\_decrease\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ relative to the initial equilibrium quantity.
2. Suppose the domestic market for peanuts in Topland, a small economy, is described by the following equations:

Domestic Demand: P = 10 – (1/5)Q

Domestic Supply: P = 1 + (1/4)Q

where P is the price per unit of peanuts and Q is units of peanuts. The world price of peanuts is $3 per unit.

* 1. (1 point) Given the above information, if the peanut market in Topland opens to trade, how many units of peanuts will be exported or imported? Make sure your answer identifies whether Topland will import or export peanuts.

Answer:

At a world price of $3 per unit of peanuts, the quantity demanded will be 35 units and the quantity domestically supplied will be 8 units. The difference between the quantity demanded and the quantity supplied is 27 units of peanuts and this is the amount of peanuts that will be imported into this market.

* 1. Suppose the government of Topland imposes an import quota of 9 units of peanuts. Given this information:
     1. (1 point) What will be the price of a unit of peanuts in Topland? Show your work for full credit.

Answer:

With the import quota of 9 units we know that the relationship between the quantity demanded domestically and the quantity supplied domestically will be given as Qs + quota = Qd. We can substitute for Qs and Qd and get:

4P – 4 + 9 = 50 – 5P or 9P = 45 and P = $5. When the price is $5 per unit of peanuts, the quantity demanded domestically is 25 units and the quantity supplied domestically is 16 units. The difference, 9 units of peanuts, will be imported: this is the import quota amount.

* + 1. (1 point) What will be the value of consumer surplus given this quota? Show your work for full credit.

Answer:

CS = (1/2)($10 per unit of peanuts - $5 per unit of peanuts)(25 units of peanuts) = $62.50

* + 1. (1 point) What will be the value of license holder revenue given this quota? Show your work for full credit.

Answer:

License Holder Revenue = ($5 per unit of peanuts - $3 per unit of peanuts)(9 units of peanuts) = $18

* + 1. (2 point) What will be the value of deadweight loss due to this quota? Show your work for full credit.

Answer:

Deadweight Loss = DWL = (1/2)($5 per unit of peanuts - $3 per unit of peanuts)(16 units of peanuts – 8 units of peanuts) + (1/2)($5 per unit of peanuts - $3 per unit of peanuts)(35 units of peanuts – 25 units of peanuts) = $18