

Assignment 2*Due in tutorials in the week of February 9th*Do **Problem 36** from chapter 7, p.160. (4 marks)

Question 1 (4 marks) On p. 119 of the textbook (paragraph 3 from the top) it says that Darlene's seller's surplus is the difference between the total revenue she gets and her total value of the eggs she sells.

Explain clearly why we have to subtract her TV from TR in order to calculate her surplus. After all, she managed to sell 15 eggs at $P = 10$ cents each, so technically when she comes back home from the market she has \$1.50 in her pocket. How come her gains from trade are only 45 cents? (Hint: you might start with explanation of what is the meaning of seller's surplus and what it is supposed to measure. One more hint: **gains** from trade.)

Question 2 (4 marks) Producers of peanuts discover a new technology that allows them to double yield per acre of land without increasing the production cost. Even if almonds and peanuts are substitutes, market for almonds should not be affected by this change because demand for peanuts stays the same. Indicate whether the statement is true or false and explain why. For full marks use diagrams. (Hint: start your analysis with the market for peanuts, what happens in the market for peanuts as a result of this discovery?)

Problem 1 (4 marks)

John's MV for trinkets is $MV_J = 30 - Q_J$ where Q_J is the number of trinkets that he has. Mary's MV for trinkets is given by $MV_M = 20 - .5Q_M$. John was a good boy and Santa gave him $Q_J^0 = 20$ trinkets for Christmas. Mary did not behave and therefore Santa gave her only $Q_M^0 = 5$ trinkets.

- (a) If John and Mary trade trinkets, what will be the equilibrium price (P^*)? How many trinkets will John buy in equilibrium (Q_J^*)? How many trinkets does Mary want at the equilibrium price (Q_M^*)? (2 marks)
- (b) Show your results for part (a) using a box similar to Fig. 6-2 on p 121 of the textbook. For full marks on your diagram indicate: (i) the initial situation before trade (Q_J^0 and Q_M^0); (ii) equilibrium price and quantities (P^* , Q_M^* , Q_J^*); (iii) gains from trade (shade the area). (2 marks)

Problem 2 (4 marks)

John's MV for trinkets is $MV_J = 30 - Q_J$ where Q_J is the number of trinkets that he has. Mary's MV for trinkets is given by $MV_M = 20 - .5Q_M$. John was a good boy and Santa gave him 20 trinkets for Christmas. Mary did not behave and therefore Santa gave her only 5 trinkets.

- (a) Construct a table similar to table 6-1 on p.123. For each of the prices P equal to 30, 25, 20, 15, 10, 5, 0 calculate quantity demanded by John, quantity demanded by Mary and the total quantity demanded¹. Using three different colors plot John's demand, Mary's demand and market demand on one diagram. (2 marks)
- (b) Add market supply curve to your diagram. What is the equilibrium price of trinkets? According to your table, is total quantity demanded equal to the market supply at the equilibrium price that you found? Finally, on your diagram indicate individual quantities demanded by John and Mary at the equilibrium price. (2 marks)

¹You can save time by isolating Q s from the MV s. Once you have Q on the left hand side of equation all you will have to do is plug different prices into each equation. For example for John $Q_J = 30 - P$; and when $P = 30$ $Q_J = 30 - 30 = 0$, etc..