[handwritten] P reaches level quantity supplied = quantity demanded

1. Determine the equilibrium price and quantity given the following information about a market, and graph your results.

   Demand: $P = -4Q + 220$ Supply: $P = 15Q + 30$.

   [handwritten] 4

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2. You are given the following information for supply and demand in a market:

   Supply: $Q = 1800 + 240P$ Demand: $Q = 2580 - 194P$.

   a. Determine the equilibrium supply and demand, and graph the equilibrium (Note: invert curves before graphing). Be sure to label each curve and the equilibrium price and quantity.

   b. Now, suppose that trade barriers fall and an outside country purchases an additional 200 units of this good.   Determine the new demand curve. And determine the new quantity and price.   (hint: new Q: f(P) + 200)

   c. Invert and graph the new demand curve, and show the old and new equilibrium in one graph.

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3. Suppose that the income of buyers in a market for a normal good declines and there is also a reduction in the input prices in the supply process. Discuss and show graphically what you would expect to happen in this market.

   [handwritten] As income ↑ demand for a normal good will increase
   [handwritten] determinant of supply

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4. Technological advances reduced the cost of computer chips repeatedly in the 1990's. Using supply and demand curves, show the effects of this development on the equilibrium price and quantity in the market for computers, and in the market for computer software.

5. Define, calculate and graph total consumer and producer surplus, using the following information.

Supply:　　　$P = 2Q + 170$　　　Demand:　$P = -5Q + 450$

6. Starting from equilibrium, as calculated in question 5, calculate and graph the change in producer, consumer, and social surplus, plus tax revenues/costs if relevant, for each of the following policies. Discuss who gains or loses, how/why surplus transfers from one group to another; and define deadweight loss and what causes it.

    a. A price ceiling of 200.

    b. A price floor of 325.

    c. A per unit tax of 10 per unit.

    d. A per unit subsidy of 50 per unit.

7. Willingness to pay is the easiest way to ration goods, but not always the most equitable. Suppose that the government wants to impose a price ceiling on basic health care in order to insure that all people can afford it, but there is concern that shortages of supply would result. Using 2 graphs, show the market for publicly provided health care with a price ceiling, and private health care with no government interference. Define and graph consumer and producer surplus in both markets, and determine if there are any deadweight losses associated with this policy. Set up a plan for rationing the public health care, if necessary. Be specific about the criteria if you are not going to use willingness to pay.