

### HW Questions for Chapter 4 “Demand and Supply Applications”

1. The rent for apartments in New York City has been rising sharply. Demand for apartments in New York City has been rising sharply as well. This is hard to explain because the law of demand says that higher prices should lead to lower demand. Do you agree or disagree? Explain your answer.
2. Suppose that the world price of oil is \$70 per barrel and that the United States can buy all the oil it wants at this price. Suppose also that the demand and supply schedules for oil in the United States are as follows:

Price (\$ per Barrel)	U.S. Quantity Demanded	U.S. Quantity Supplied
68	16	4
70	15	6
72	14	8
74	13	10
76	12	12

- a. Draw the supply and demand curves for the United States.
  - b. With free trade in oil, what price will Americans pay for their oil? What quantity will Americans buy? How much of this will be supplied by American producers? How much will be imported? Illustrate total imports on your graph of the U.S. oil market?
  - c. Suppose the United States imposes a tax of \$4 per barrel on imported oil. What quantity would Americans buy? How much of this would be supplied by American producers? How much would be imported? How much tax would the government collect?
  - d. Briefly summarize the impact of an oil import tax by explaining who is helped and who is hurt among the following groups: domestic oil consumers, domestic oil producers, foreign oil producers, and the U.S. government.
3. Use the data in the preceding problem to answer the following questions. Now suppose that the United States allows no oil imports.
    - a. What are the equilibrium price and quantity for oil in the United States?
    - b. If the United States imposed a price ceiling of \$74 per barrel on the oil market and prohibited imports, would there be an excess supply or an excess demand for oil. If so, how much?
    - c. Under the price ceiling, quantity supplied and quantity demanded differ. Which of the two will determine how much oil is purchased? Briefly explain why.

4. Use the following diagram to calculate total consumer surplus at a price of \$8 and production of 6 million meals per day. For the same equilibrium, calculate total producer surplus. Assuming price remained at \$8 but production was cut to 3 million meals per day, calculate producer surplus and consumer surplus. Calculate the deadweight loss from underproduction.

