EC 201, Faris Homework # 2 : 1, 3, 5

15. Market supply is the sum of all that is supplied each period by all producers of a single product. It is the sum of all the individual quantities supplied at each price.

16. It is very important to distinguish between *movements* along demand and supply curves and *shifts* of demand and supply curves. The demand curve shows the relationship between price and quantity demanded. The supply curve shows the relationship between price and quantity supplied. A change in price is a movement along the curve. Changes in tastes, income, wealth, expectations, or prices of other goods and services cause demand curves to shift; changes in costs, input prices, technology, or prices of related goods and services cause supply curves to shift.

MARKET EQUILIBRIUM

17. When quantity demanded exceeds quantity supplied at the current price, *excess demand* (or a *shortage*) exists and the price tends to rise. When prices in a market rise, quantity demanded falls and quantity supplied rises until an equilibrium is reached at which quantity supplied and quantity demanded are equal. At *equilibrium*, there is no further tendency for price to change.

18. When quantity supplied exceeds quantity demanded at the current price, *excess supply* (or a *surplus*) exists and the price tends to fall. When price falls, quantity supplied decreases and quantity demanded increases until an equilibrium price is reached where quantity supplied and quantity demanded are equal.

REVIEW TERMS AND CONCEPTS

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PROBLEM SET

1. Illustrate the following with supply and demand curves:
   a. In 2000, the economy expanded, increasing the demand for labor and pushing up wages.
   b. During the year 2000, cranberry growers produced an enormous crop; as a result the price of a 100-pound barrel of cranberries fell from $55 a year earlier to $42.
   c. As more and more people bought home computers during the 1990s, the demand for access to the Internet increased sharply. At the same time, new companies like Erol's began to enter the Internet-access market, competing with older, more established services such as America Online. Despite a massive increase in demand, the price of access to the Web actually declined.
   d. Before economic reforms were implemented in the countries of Eastern Europe, regulation held the price of bread substantially below equilibrium. When reforms were implemented, prices were deregulated and they rose dramatically. As a result, the quantity of bread demanded fell and the quantity of bread supplied rose sharply.
   e. The steel industry has been lobbying for high taxes on imported steel. Russia, Brazil, and Japan have been producing and selling steel on world markets at $22 per metric ton, well below what equilibrium would be in the United States with no imports. If no imported steel were permitted into the country, the equilibrium price would be $35 per metric ton. (Show supply and demand curves for the United States assuming no imports; then show what the graph would look like if U.S. buyers could purchase all the rolled steel that they wanted from world markets at $22; show the quantity of imported steel.) On March 3, 2000, the Federal Trade Commission voted 5 to 1 not to impose high import duties (taxes) on imported steel.

2. In August of 1999, the Boston Red Sox were battling it out with several teams for a wild card berth in the playoffs. In August, they played against the Cleveland Indians in Boston. The following week they played a game in Los Angeles against the Angels (a team in last place). All tickets to the Cleveland game were sold out a month in advance, and many people who wanted to get tickets could not. The Los Angeles game attracted only 17,600 to a stadium that seats 40,000.

   Fenway Park (in Boston) holds 36,000 people. The Angels Stadium holds 40,000. Assume for simplicity that tickets to all regular season games are priced at $20.
   a. Draw supply and demand curves for the tickets to each of the two games. (*Hint:* supply is perfectly inelastic—simply a vertical line.) Draw one graph for each game.

b. Is there a pricing policy that would have filled the ballpark for the Angels game? If the Angels adopted such a strategy, would it bring in more or less revenue?

c. The price system was not allowed to work to ration the Cleveland tickets. How do you know? How do you suppose the tickets were rationed?

3. During 2000, Orlando, Florida, was growing rapidly, with new jobs luring young people into the area. Despite increases in population and income growth that expanded demand for housing, the price of existing houses barely increased. Why? Illustrate your answer with supply and demand curves.

4. Do you agree or disagree with each of the following statements? Briefly explain your answers.

a. The price of a good rises, causing the demand for another good to fall. The two goods are therefore substitutes.

b. A shift in supply causes the price of a good to fall. The shift must have been an increase in supply.

c. During 2000, incomes rose sharply for most Americans. This change would likely lead to an increase in the prices of both normal and inferior goods.

d. Two normal goods cannot be substitutes for each other.

e. If demand increases and supply increases at the same time, price will clearly rise.

f. The price of good A falls. This causes an increase in the price of good B. Goods A and B are therefore complements.

5. The U.S. government administers two programs that affect the market for cigarettes. Media campaigns and labeling requirements are aimed at making the public aware of the health dangers of cigarettes. At the same time, the Department of Agriculture maintains price supports for tobacco. Under this program, the supported price is above the market equilibrium price, and the government limits the amount of land that can be devoted to tobacco production. Are these two programs at odds with respect to the goal of reducing cigarette consumption? As a part of your answer, illustrate graphically the effects of both policies on the market for cigarettes.

6. Housing prices in Boston and Los Angeles have been on a roller coaster ride. Illustrate each of the following situations with supply and demand curves:

a. In both cities an increase in income combined with expectations of a strong market shifted demand and caused prices to rise rapidly during the mid- to late 1980s.

b. By 1990, the construction industry boomed as more and more developers started new residential projects. Those new projects expanded the supply of housing just as demand was shifting as a result of falling incomes and expectations during the 1990–1991 recession.

c. In 1997, housing in higher income towns in the Boston area was experiencing price increases at the same time as housing in lower income towns was experiencing price decreases. In part this effect was due to "trade-up" buyers selling houses in lower income areas and buying houses in higher income areas.

d. Despite falling incomes, housing markets in lower income areas in Los Angeles were actually experiencing some price increases in 1994 and 1995 as immigration of lower income households continued.

7. The following two sets of statements contain common errors. Identify and explain each.

a. Demand increases, causing prices to rise. Higher prices cause demand to fall. Therefore, prices fall back to their original levels.

b. The supply of meat in Russia increases, causing meat prices to fall. Lower prices mean that Russian households spend more on meat.

8. For each of the following, draw a diagram that illustrates the likely effect on the market for eggs. Indicate in each case the impact on equilibrium price and equilibrium quantity.

a. A surgeon general warns that high-cholesterol foods cause heart attacks.

b. The price of bacon, a complementary product, decreases.

c. An increase in the price of chicken feed occurs.

d. Caesar salads become trendy at dinner parties. (The dressing is made with raw eggs.)

e. A technological innovation reduces egg breakage during packing.

9. "An increase in demand causes an increase in price, but an increase in price causes a decrease in demand. Increases in demand, therefore, largely cancel themselves out." Comment.

*10. Suppose the demand and supply curves for eggs in the United States are given by the following equations:

$$Q_d = 100 - 20P$$
$$Q_s = 10 + 40P$$

where Q_d = millions of dozens of eggs Americans would like to buy each year; Q_s = millions of dozens of eggs U.S. farms would like to sell each year; P = price per dozen eggs.

a. Fill in the following table:

PRICE (PER DOZEN)	QUANTITY DEMANDED (Q_d)	QUANTITY SUPPLIED (Q_s)
\$ .50	_____	_____
\$ 1.00	_____	_____
\$ 1.50	_____	_____
\$ 2.00	_____	_____
\$ 2.50	_____	_____

b. Use the information in the table to find the equilibrium price and equilibrium quantity.

c. Graph the demand and supply curves, and identify the equilibrium price and quantity.

*11. Housing policy analysts debate the best way to increase the number of housing units available to low-income households. One strategy—the demand-side strategy—is to provide people with housing "vouchers," paid for by the government, that can be used to rent housing supplied by the private market. Another—a supply-side strategy—is to have the government subsidize housing suppliers or to build public housing.

a. Illustrate supply- and demand-side strategies using supply and demand curves. Which results in higher rents?

b. Critics of housing vouchers (the demand-side strategy) argue that because the supply of housing to low-income households is limited and will not respond at all to higher rents, demand vouchers will serve only to drive up rents and make landlords better off. Illustrate their point with supply and demand curves.

*Note: Problems marked with an asterisk are more challenging.