Solutions to the Odd-Numbered Problems

1. a. ½ pound of wool trades for 1 pound of butter trades.
   b. Butter is 40¢ a pound.
   c. Yes, many people would accept Mr. Gregg’s offer. People could use $1.60 to buy 8 pounds of bacon. They could then trade this bacon with Mr. Gregg for 8 yards of cloth. Then they could trade the 8 yards of cloth for 1 bushel of salt. The salt could be sold for $2.00, which would leave a profit of $0.40.

3. The statement is false for several reasons. First, if the demand for Internet services increases and nothing else changes, the price of Internet service will rise not fall. Second, if the price of Internet services falls, the supply of Internet services does not change. Rather, there is a decrease in the quantity supplied, that is, a movement along the supply curve rather than a shift of the supply curve.

5. a. (ii) and (iii) and (iv)
   The demand for gasoline will change if the price of a car changes, all speed limits on highways are abolished, or robot production cuts the cost of producing a car. If the price of a car rises, the quantity of cars bought decrease. So the demand for gasoline decreases. If all speed limits on highways are abolished, people will drive faster and use more gasoline. The demand for gasoline increases. If robot production plants lower the cost of producing a car, the supply of cars will increase. With no change in the demand for cars, the price of a car will fall and more cars will be bought. The demand for gasoline increases.
   b. (i)
   The supply of gasoline will change if the price of crude oil changes. If the price of crude oil rises, the cost of producing gasoline will rise. So the supply of gasoline decreases.
   c. (i)
   If the price of crude oil (a resource used to make gasoline) rises, the cost of producing gasoline will rise. So the supply of gasoline decreases. The demand for gasoline does not change, so the price of gasoline will rise and there is a movement up the demand curve for gasoline. The quantity demanded of gasoline decreases.
   d. (ii) and (iii) and (iv)
   If the price of a car rises, the quantity of cars bought decrease, so the demand for gasoline decreases. The supply of gasoline does not change. The price of gasoline falls and there is a movement down the supply curve of gasoline. The quantity supplied of gasoline decreases.
   If all speed limits on highways are abolished, people will drive faster and use more gasoline. The demand for gasoline increases. The supply of gasoline does not change, so
the price of gasoline rises and there is a movement up along the supply curve. The quantity supplied of gasoline increases.
If robot production plants lower the cost of producing a car, the supply of cars will increase. With no change in the demand for cars, the price of a car will fall and more cars will be bought. The demand for gasoline increases. The supply of gasoline does not change, so the price of gasoline rises and the quantity of gasoline supplied increases.

7. a. The equilibrium price is 50 cents a pack, and the equilibrium quantity is 120 million packs a week.
   The price of a pack adjusts until the quantity demanded equals the quantity supplied. At 50 cents a pack, the quantity demanded is 120 million packs a week and the quantity supplied is 120 million packs a week.

b. At 70 cents a pack, there will be a surplus of gum and the price will fall.
   At 70 cents a pack, the quantity demanded is 80 million packs a week and the quantity supplied is 160 million packs a week. There is a surplus of 80 million packs a week. The price will fall until market equilibrium is restored at a price of 50 cents a pack.

c. At 30 cents a pack, there will be a shortage of gum and the price will rise.
   At 30 cents a pack, the quantity demanded is 160 million packs a week and the quantity supplied is 80 million packs a week. There is a shortage of 80 million packs a week. The price will rise until market equilibrium is restored at a price of 50 cents a pack.

d. The supply curve has shifted leftward and there has been a movement along the demand curve. The new equilibrium price is 60 cents, and the equilibrium quantity is 100 million packs a week.
   As the number of gum-producing factories decreases, the supply of gum decreases. There is a new supply schedule, and the supply curve shifts leftward. Supply decreases by 40 million packs a week. That is, the quantity supplied at each price decreases by 40 million packs. The quantity supplied at 50 cents is now 80 million packs, and there is a shortage of gum. The price rises to 60 cents a pack, at which the quantity supplied equals the quantity demanded (100 million packs a week).

e. The new price is 70 cents a pack, and the quantity is 120 million packs a week.
   The demand for gum increases, and the demand curve shifts rightward. The quantity demanded at each price increases by 40 million packs. Supply decreases by 40 millions packs a week. That is, the quantity supplied at each price decreases by 40 million packs.
   At any price below 70 cents a pack there is a shortage of gum. The price of gum will rise until the shortage is eliminated.