**Supply, Demand and Market Equilibrium**

**Questions and Problems**

**Questions:**

1. Assume that the average teacher wage (equivalent to the equilibrium wage) is $50,000 in River City. Identify whether each of the following demand/supply change would cause a teacher shortage or teacher surplus at the wage rate of $50,000.
   1. A decrease in the demand for teachers.
   2. Teacher attrition leading to a decrease in the supply of teachers.
2. State whether each of the following is true or false. If false, what is the correct statement?
   1. At a price above equilibrium, quantity supplied exceeds quantity demanded.
   2. At a price below equilibrium, quantity supplied exceeds quantity demanded.
   3. A shortage will cause a decrease in price, while a surplus will cause an increase in price.
3. State whether each of the following is true or false, and explain your response.
   1. In the market for personal computers, if the price of computer chips (an input) increases, the supply curve will shift to the left, and the equilibrium price will decrease.
   2. Assume that personal computers are normal goods. If there is increased consumer confidence that household incomes will be higher in the future, the demand for personal computers will increase leading to a decrease in equilibrium price.
4. In the market for sport utility vehicles (SUVs), identify the impact of the following on equilibrium price and quantity.
   1. An increase in the price of gasoline, a complementary good.
   2. An increase in the price of sedan vehicles, a substitute good.
5. In the market of family homes in a city, identify three factors that will lead to an increase in demand and three factors that will cause a decrease in supply.
6. The demand for and supply of natural gas is influenced by a variety of factors. Discuss the impact of each of the following on market demand or market supply, and then the potential impacts on equilibrium price and quantity.
   1. Below normal temperatures for a most of the winter months
   2. A strong U.S. economy
   3. Technological advances in the production of natural gas
7. In a conversation with another student, you heard him say “a decrease in the price of cell phones will cause an increase in the demand for cell phones.” What is the difference between a change in demand and a change in quantity demand? Based on your answer, is the student correct?
8. Identify the simultaneous changes in demand and supply that will lead to each of the results below.
   1. An increase in equilibrium price and an indeterminate effect on equilibrium quantity.
   2. An increase in equilibrium quantity and an indeterminate effect on equilibrium price.
   3. A decrease in equilibrium price and an indeterminate effect on equilibrium quantity.

**Answers:**

* 1. Teacher surplus due to a leftward shift in the demand curve. At $50,000, quantity demanded is less for the new demand curve than the equilibrium quantity. Hence, a positive gap between quantity supplied and quantity demanded.
  2. Teacher shortage due to a leftward shift in the supply curve. At $50,000, quantity supplied is less for the new supply curve than the equilibrium quantity. Hence, a negative gap between quantity supplied and quantity demanded.
  3. True
  4. False. Quantity supplied is less than quantity demanded.
  5. False. A shortage will cause an increase in price and a surplus will cause a decrease in price.
  6. False. The supply curve will shift to the left and the equilibrium price will increase.
  7. False. The demand for personal computers will increase leading to an increase in the equilibrium price.
  8. An increase in the price of gasoline will cause a decrease in the demand for SUVs and a decrease in equilibrium price.
  9. An increase in the price of sedan vehicles will cause an increase in the demand for SUVs, and an increase in the equilibrium price.

1. Factors that will lead to an increase in the demand for family homes are increase in household incomes, increase in city population, and the expectation that incomes will be higher in the future (increased consumer confidence). Factors that will cause a decrease in the supply of family homes are a decrease in the number of builders in the city, an increase in taxes to builders of family homes, and an increase in the price of materials used in constructing family homes.
   1. An increase in the demand for natural gas; increase in equilibrium quantity and price
   2. An increase in the demand for natural gas; increase in equilibrium quantity and price
   3. An increase in the supply of natural gas; an increase in equilibrium quantity, and a decrease in equilibrium price.
2. The statement is incorrect since the student should have said that a decrease in the price of cell phone, assuming that all other factors are held constant, will cause an increase in quantity demanded.
   1. An increase in demand and a decrease in supply
   2. An increase in demand and an increase in supply
   3. A decrease in demand and an increase in supply