

**Part I: Multiple Choice.**

1. During the first year that the Salk vaccine for infantile paralysis became available, the quantity produced was too small to inoculate all those in susceptible age groups. Although the cost of production and the price were not particularly high, production could not be expanded rapidly enough to meet the demand. The government therefore intervened to regulate its distribution. What do these facts suggest about the price of the Salk vaccine during the first year of its availability? It was:

- a) at equilibrium
- b) above equilibrium
- c) below equilibrium
- d) indeterminate

2. If consumers are currently buying 1000 heads of lettuce per week, and if the price of lettuce falls by 20 cents per head, then the consumers' surplus will:

- a) increase by \$200
- b) increase by more than \$200
- c) increase by less than \$200
- d) decrease by more than \$200
- e) decrease by less than \$200

3. Consider Dr. Pepper and Coca-Cola. If the price of Coca-Cola increases then we would expect that:

- a) the demand for Dr. Pepper will increase.
- b) the demand for Coca-Cola will increase.
- c) the demand for Coca-Cola will decrease.
- d) (a) and (c).
- e) none of the above.

4. Because of the animal rights movement, more and more people prefer to wear synthetic materials instead of actual fur. What happens in the market for fur coats?

- a) the supply falls, causing the price of fur coats to rise.
- b) the supply of fur coats will now exceed the demand.
- c) the price of fur coats falls in response to lower demand
- d) the equilibrium quantity falls, but there will be no change in the equilibrium price.

5. The producer surplus is the area:

- a) above the supply curve.
- b) under the equilibrium price and under the supply curve.
- c) above the supply curve below the equilibrium price out to the quantity supplied.
- d) below the equilibrium price out to the quantity demanded.
- e) below the supply curve past the quantity supplied.

6. Over the course of a year the price of TVs has fallen from \$450 to \$425 and the number of TVs sold has risen by 6000. In terms of supply and demand, we can conclude that:
- demand has increased.
  - demand has decreased.
  - supply has increased.
  - supply has decreased.
  - we do not have enough information to say what happened.

**Part II: Answer each question. Label all curves and axes.**

7. Assume that an effective government-imposed price ceiling is placed on a particular good. The price is set below equilibrium. Now, let the price ceiling be removed. True, False, or Uncertain: Consumer spending on the good will increase only if demand is inelastic. Explain your answer.

8. If the supply of turkeys in a particular November turned out to be unusually small, do you think a turkey shortage would result? Why or why not?

9. A person argues that if the prison sentences for all crimes were doubled, this would worsen the problem of overcrowded prisons, all other things being equal. Use the concept of demand to explain why this argument is likely to be incorrect.

10. Distinguish between a shift in demand and a movement along a given demand curve. Explain the chief causes of each.

11. In 1994, 27 million bags of M&Ms were produced and sold at an average price of \$3. In 1995, 31 million bags of M&Ms were produced and sold at an average price of \$4. Assume that the supply curve for M&Ms did not shift between 1994 and 1995.

- Sketch a demand and supply curve for M&Ms in 1994 and 1995 to illustrate the change in price and quantity. Mark the 1994 and 1995 prices and quantities on the axes.
- Describe an event that could have led to the changes you just illustrated.
- Show the gain to producers from this event on your sketch.

12. Suppose the market for college microeconomics texts can be described by the following equations:

$$\text{Demand: } P = 250 - Q$$

$$\text{Supply: } P = 10 + 3Q$$

Where  $P$  is the price in dollars per unit, and  $Q$  is the quantity in thousands of units.

- What is the free market price and quantity? Illustrate with a graph.
- Calculate the consumer surplus, producer surplus, and social gain.
- Suppose the government imposes a \$5 tax on suppliers. Calculate the new equilibrium price and quantity.
- Calculate the CS, PS, Social Gain, and DWL due to the tax.

13. About 100 million pounds of jelly beans are consumed in the United States each year, and the price has been about 50 cents per pound. However, jelly bean producers feel that their incomes are too low, and they have convinced the government that price supports are in order.

The government will therefore buy up as many jelly beans as necessary to keep the price at \$1 per pound. However, government economists are worried about the impact of this program, because they have no estimates of the elasticities of jelly bean demand or supply.

a) Could this program cost the government more than \$50 million per year? Under what conditions? Could it cost less than \$50 million per year? Under what conditions? Illustrate with a diagram.

14. In 1975, 18 million calculators were produced and sold at an average price of \$60. In 1983, 31 million calculators were produced and sold at an average price of \$30.

a) Sketch a demand and supply curve for calculators in 1975 and 1983 to illustrate the change in price and quantity. Mark the 1975 and 1983 prices and quantities on the axes.

b) Describe an event that could have led to the changes you just illustrated.

c) Show the gain to consumers from this event on your sketch.

15. Assume the following demand and supply curves exist for a domestic industry:

$$P_d = 900 - 5Q$$

$$P_s = 100 + 3Q$$

a) Plot the supply and demand curves. Calculate the domestic equilibrium price and quantity.

b) Calculate the dollar values of consumer surplus, producer surplus, and social gain.

c) Suppose that, through international trade, another country can supply an infinite amount of this commodity at a price of \$200 per unit. Calculate the quantity demanded and supplied in the domestic economy. How many units are imported from the other country?

d) Calculate the dollar values of consumer surplus, producer surplus, and social gain under international trade.

e) Suppose that the domestic producers successfully lobby to have the government impose a \$100 tariff on imported products. Recalculate the impact on imports. Recalculate the impact on consumer surplus, producer surplus, the domestic government, and social gain.

16. Midcontinent Plastics makes 80 fiberglass truck hoods per day for large truck manufacturers. Each hood sells for \$500.00. Midcontinent sells all of its product to the large truck manufacturers. If the own price elasticity of demand for hoods is -0.4 and the price elasticity of supply is 1.5.

a) Compute the supply and demand equations for truck hoods.

b) If the local county government imposed a per unit tax of \$25.00 per hood manufactured, what would be the new equilibrium price of hoods to the truck manufacturer?

c) Would a per unit tax on hoods change the revenue received by Midcontinent? Explain.