

Changes in Supply and Demand

Problem Set

REMEMBER: When in doubt, draw it out!!

1. Which of the following will result in an increased price of milk?
 - A. a shift to the right of the supply curve for milk
 - B. **a shift to the right of the demand curve for milk**
 - C. an increase in the number of milk suppliers
 - D. a decrease in the number of milk buyers
 - E. an increase in the production technology of milk suppliers.
2. In the market for corn tortilla chips, what would definitely cause a price increase?
 - A. The medical community issues a strong warning against the consumption of corn chips.
 - B. There is a technological advancement in the tortilla chip production process.
 - C. **There is a fungus that kills much of the corn crop in Nebraska.**
 - D. The price of salsa triples.
 - E. Household income falls and corn chips are a normal good.
3. In the market for beef tacos, a normal good, you observe that the equilibrium price and quantity have increased. This can only be caused by:
 - A. an increase in the price of beef.
 - B. an increase in the wages of taco shop workers.
 - C. fewer taco shops.
 - D. **an increase in the incomes of people who eat tacos.**
 - E. a decrease in the price of chicken tacos.
4. In the market for local coffee, the price of coffee _____ and the quantity _____ if a new coffeehouse opens nearby. At the same time, consumers' incomes decrease due to a recession and coffee is a normal good.
 - A. will increase; may increase or decrease
 - B. will decrease; will increase
 - C. may increase or decrease; will increase
 - D. may increase or decrease; will decrease
 - E. **will decrease; may increase or decrease**
5. For consumers, pizza and hamburgers are substitutes. A rise in the price of a pizza causes _____ in the equilibrium price of a hamburger and _____ in the equilibrium quantity of hamburgers.
 - A. **a rise; an increase**
 - B. a rise; a decrease
 - C. a fall; an increase
 - D. a fall; a decrease
 - E. a rise; no change
6. The price of microchips used to produce computers falls. As a result, the equilibrium price of computers _____ and the equilibrium quantity _____.
 - A. rises; increases
 - B. rises; decreases
 - C. falls; decreases
 - D. **falls; increases**
 - E. stays the same; decreases
7. The market for lemonade is currently in equilibrium and the price of lemons rises. How will this affect the lemonade market?
 - A. Demand will decrease, decreasing the price and decreasing the quantity.
 - B. Demand will decrease, increasing the price and decreasing the quantity.
 - C. Supply will increase, decreasing the price and increasing the quantity.
 - D. **Supply will decrease, increasing the price and decreasing the quantity.**
 - E. Supply will decrease, increasing the price and increasing the quantity.
8. Consider a Texaco gas station. If it introduces a new technology where customers pay at the pump, thus decreasing production costs, there will be:
 - A. **a shift to the right in the station's supply curve and lower gas prices.**
 - B. a shift to the left in the station's supply curve and higher gas prices.
 - C. a shift to the right in the customers' demand curve and higher gas prices.
 - D. a shift to the left in the customers' demand curve and lower gas prices.
 - E. a shift to the right in the station's supply curve and higher gas prices.
9. An increase in price and an ambiguous change in quantity is most likely caused by:
 - A. a shift to the left in demand and no shift in supply.
 - B. a shift to the left in supply and no shift in demand.
 - C. a shift to the right in supply and a shift to the left in demand.
 - D. a shift to the right in supply and a shift to the right in demand.
 - E. **a shift to the left in supply and a shift to the right in demand.**
10. A decrease in supply, with no change in demand, will lead to _____ in equilibrium quantity and _____ in equilibrium price.
 - A. an increase; an increase
 - B. an increase; a decrease
 - C. decrease; no change
 - D. a decrease; a decrease
 - E. **a decrease; an increase**
11. A beneficial technological change enhances the production of the cranberry crop. At the same time, scientists discover the potential health benefits of cranberries. This will result in:
 - A. an increase in both the equilibrium price and quantity in the cranberry market.
 - B. **an increase in the equilibrium quantity, and an uncertain impact on the equilibrium price of cranberries.**
 - C. a decrease in both the equilibrium price and quantity in the cranberry market.
 - D. a decrease in the equilibrium price, and an uncertain impact on the equilibrium quantity of cranberries.
 - E. an increase in the equilibrium price and a decrease in equilibrium quantity in the cranberry market.

12. A decrease in demand and a decrease in supply will lead to a(n) _____ in equilibrium quantity and a(n) _____ in equilibrium price.

- A. decrease; uncertain change
- B. uncertain change; increase
- C. uncertain change; decrease
- D. increase; uncertain change
- E. decrease; decrease

13. An increase in demand and a decrease in supply will lead to a(n) _____ in equilibrium quantity and a(n) _____ in equilibrium price.

- A. decrease; decrease
- B. uncertain change; increase
- C. uncertain change; decrease
- D. increase; uncertain change
- E. increase; decrease

14. It is certain that the equilibrium quantity will fall when:

- A. the supply curve and the demand curve both shift to the right.
- B. the supply curve shifts to the right and the demand curve shifts to the left.
- C. supply and demand both shift to the left.
- D. supply shifts to the right and demand stays the same.
- E. supply shifts to the left and demand shifts to the right

15. It is certain that the equilibrium quantity will rise when:

- A. supply stays the same and demand shifts to the left.
- B. the supply curve shifts to the right and the demand curve shifts to the left.
- C. supply and demand both shift to the left.
- D. supply shifts to the left and demand stays the same.
- E. the supply curve and the demand curve both shift to the right.

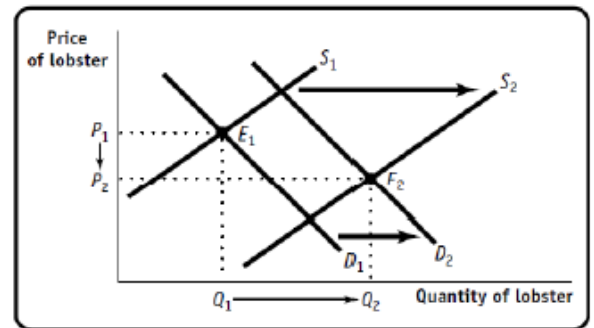
16. In each of the following examples, determine (i) the market in question; (ii) whether a shift in demand or supply occurred, the direction of the shift, and what induced the shift; and (iii) the effect of the shift on the equilibrium price and the equilibrium quantity.

Situation	Market in question	Demand or Supply Shift? Cause?	Effect on Equilibrium P and Q
a. As the price of gasoline fell in the United States during the 1990s, more people bought large cars.	Market for large cars	Right shift in demand caused by a decrease in the price of a complement (gasoline)	P will rise; Q will rise
b. As technological innovation has lowered the cost of recycling used paper, fresh paper made from recycled stock is used more frequently.	Market for fresh paper made from recycled stock	Right shift in supply due to a technological innovation	P will fall; Q will rise
c. When a local cable company offers cheaper pay-per-view films, local movie theaters have more unfilled seats.	Market for movies at the local movie theater	Left shift in demand caused by a fall in the price of a substitute (pay-per-view movies)	Q will fall; P will fall

17. The market for many goods changes in predictable ways according to the time of year, in response to events such as holidays, vacation times, seasonal changes in production, and so on. Using supply and demand, explain the change in price in each of the following cases. Note that supply and demand may shift simultaneously.

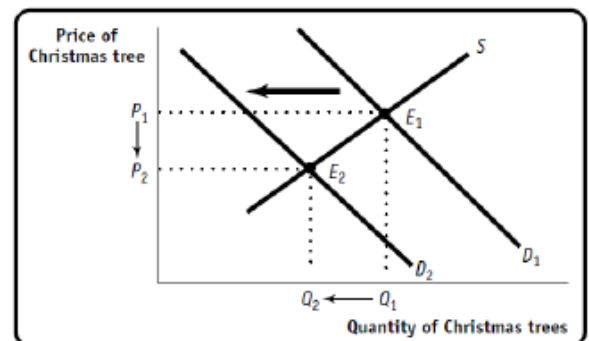
- a. Lobster prices usually fall during the summer peak lobster harvest season, despite the fact that people like to eat lobster during the summer more than at any other time of year.

There is a rightward shift of the demand curve from D_1 to D_2 during the summer, as consumers prefer to eat more lobster during the summer than at other times of the year. Other things equal, this leads to a rise in the price of lobster. Simultaneously, lobster fishermen produce more lobster during the summer peak harvest time, when it is cheaper to harvest lobster, representing a rightward shift of the supply curve of lobster from S_1 to S_2 . Other things equal, this leads to a fall in the price of lobster. Given the simultaneous rightward shifts of both the demand and supply curves, the equilibrium changes from E_1 to E_2 . The fall in price indicates that the rightward shift of the supply curve exceeds the rightward shift of the demand curve.



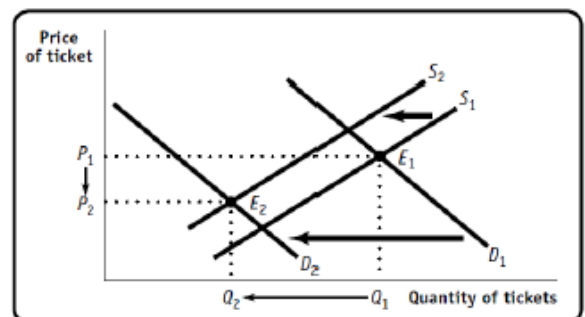
- b. The price of a Christmas tree is lower after Christmas than before but fewer trees are sold.

There is a leftward shift of the demand curve for Christmas trees after Christmas from D_1 to D_2 , as fewer consumers want Christmas trees at any given price. The supply curve does not shift; the reduction in the quantity of trees supplied is a movement along the supply curve. This leads to a fall in the equilibrium price and quantity, as the equilibrium changes from E_1 to E_2 .



- c. The price of a round-trip ticket to Paris on Air France falls by more than \$200 after the end of school vacation in September. This happens despite the fact that generally worsening weather increases the cost of operating flights to Paris, and Air France therefore reduces the number of flights to Paris at any given price.

There is a leftward shift of the demand curve for tickets to Paris in September, after the end of school vacation, from D_1 to D_2 . Other things equal, this leads to a fall in the price of tickets. At the same time, as the cost of operating flights increases, Air France decreases the number of flights, shifting the supply curve leftward from S_1 to S_2 . Other things equal, this leads to a rise in price. Given the simultaneous leftward shifts of both the demand and supply curves, the equilibrium changes from E_1 to E_2 . The fall in price indicates that the leftward shift of the demand curve exceeds the leftward shift of the supply curve.



18. Complete the chart to determine the impacts of simultaneous shifts of supply and demand have on equilibrium price and quantity.

	No Change in Supply		Increase in Supply		Decrease in Supply	
No change in Demand	P	↑ ? ↓	P	↑ ? ↓	P	↑ ? ↓
	Q	↑ ? ↓	Q	↑ ? ↓	Q	↑ ? ↓
Increase in Demand	P	↑ ? ↓	P	↑ ? ↓	P	↑ ? ↓
	Q	↑ ? ↓	Q	↑ ? ↓	Q	↑ ? ↓
Decrease in Demand	P	↑ ? ↓	P	↑ ? ↓	P	↑ ? ↓
	Q	↑ ? ↓	Q	↑ ? ↓	Q	↑ ? ↓