

Macroeconomics

ACTIVITY 1-8

Objective SS.912.E.1.4: Define supply, demand, quantity supplied, and quantity demanded; graphically illustrate situations that would cause changes in each, and demonstrate how the equilibrium price of a product is determined by the interaction of supply and demand in the market place.

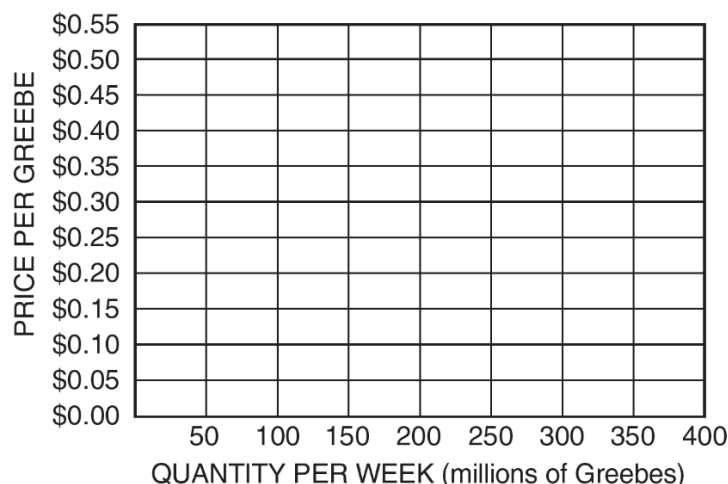
Student Alert: A “change in demand” or a “change in supply” results in a change in price, while a “change in quantity demanded” or a “change in quantity supplied” is the result of a change in price.

Table 1-8.1 below shows the demand for Greebes and the supply of Greebes. Plot these data on the axes in Figure 1-8.1. Label the demand curve D and label the supply curve S. Then answer the questions that follow.

Table 1-8.1
Demand for and Supply of Greebes

Price (per Greebe)	Quantity demanded (millions of Greebes)	Quantity supplied (millions of Greebes)
\$0.05	400	0
\$0.10	350	50
\$0.15	300	100
\$0.20	250	150
\$0.25	200	200
\$0.30	150	250
\$0.35	100	300
\$0.40	50	350
\$0.45	0	400

Figure 1-8.1
Demand for and Supply of Greebes



- Under these conditions, competitive market forces would tend to establish an equilibrium price of _____ per Greebe and an equilibrium quantity of _____ million Greebes.
- If the price currently prevailing in the market is \$0.30 per Greebe, buyers would want to buy _____ million Greebes and sellers would want to sell _____ million Greebes. Under these conditions, there would be a (*shortage / surplus*) of _____ million Greebes. Competitive market forces would cause the price to (*increase / decrease*) to a price of _____ per Greebe. At this new price, buyers would now want to buy _____ million Greebes, and sellers now want to sell _____ million Greebes. Because of this change in (*price / underlying conditions*), the (*demand / quantity demanded*) (*increased / decreased*) by _____ million Greebes, and the (*supply / quantity supplied*) (*increased / decreased*) by _____ million Greebes.
- If the price currently prevailing in the market is \$0.20 per Greebe, buyers would want to buy _____ million Greebes, and sellers would want to sell _____ million Greebes. Under these conditions, there would be a (*shortage / surplus*) of _____ million Greebes. Competitive market forces would cause the price to (*increase / decrease*) to a price of _____ per Greebe. At this new price, buyers would now want to buy _____ million Greebes, and sellers now want to sell _____ million Greebes. Because of this change in (*price / underlying conditions*), the (*demand / quantity demanded*) (*increased / decreased*) by _____ million Greebes, and the (*supply / quantity supplied*) (*increased / decreased*) by _____ million Greebes.

4. At equilibrium, is each of the following true or false? Explain.

(A) The quantity demanded is equal to the quantity supplied.

(B) Demand equals supply.

5. Now, suppose a mysterious blight causes the supply schedule for Greebes to change as shown in Table 1-8.2:

Plot the new supply schedule on the axes in Figure 1-8.1 and label it S1. Label the new equilibrium E1.

Under these conditions, competitive market forces would establish an equilibrium price of _____ per Greebe and an equilibrium quantity of _____ million Greebes.

Compared with the equilibrium price in Question 1, we say that because of this change in (*price / underlying conditions*), the (*supply / quantity supplied*) changed; and both the equilibrium price and the equilibrium quantity changed. The equilibrium price (*increased / decreased*), and the equilibrium quantity (*increased / decreased*).

6. Now, with the supply schedule at S1, suppose further that a sharp drop in people's incomes as the result of a prolonged recession causes the demand schedule to change as shown in Table 1-8.3:

Plot the new demand schedule on the axes in Figure 1-8.1 and label it D1. Label the new equilibrium E2.

Under these conditions, with the supply schedule at S1, competitive market forces would establish an equilibrium price of _____ per Greebe and an equilibrium quantity of _____ million Greebes. Compared with the equilibrium price in Question 5, because of this change in (*price / underlying conditions*), the (*demand / quantity demanded*) changed. The equilibrium price (*increased / decreased*), and the equilibrium quantity (*increased / decreased*).

Table 1-8.2

New Supply of Greebes

Price (per Greebe)	Quantity supplied (millions of Greebes)
\$0.15	0
\$0.20	50
\$0.25	100
\$0.30	150
\$0.35	200

Table 1-8.3

New Demand for Greebes

Price (per Greebe)	Quantity demanded (millions of Greebes)
\$0.15	200
\$0.20	150
\$0.25	100
\$0.30	50

Macroeconomics

ACTIVITY 1-9

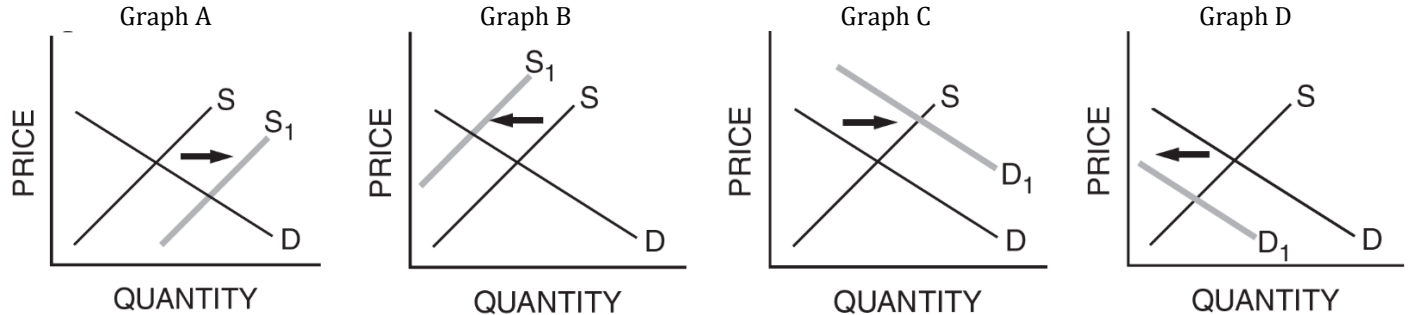
Objective SS.912.E.1.4: Define supply, demand, quantity supplied, and quantity demanded; graphically illustrate situations that would cause changes in each, and demonstrate how the equilibrium price of a product is determined by the interaction of supply and demand in the market place.

Part A: The Market for Jelly Beans

Fill in the blanks with the letter of the graph that illustrates each situation. You may use a graph more than once.

Figure 1-9.1

The Supply and Demand for Jelly Beans



- | | | | |
|-------|--|-------|---|
| _____ | 1. The price of sugar, a key ingredient in producing jelly beans, increases. | _____ | 4. The government places a tax on foreign jelly beans, which have a considerable share of the market. |
| _____ | 2. The price of bubble gum, a close substitute for jelly beans, increases. | _____ | 5. The price of soda, a complementary good for jelly beans, increases. |
| _____ | 3. A machine is invented that makes jelly beans at a lower cost. | _____ | 6. Widespread prosperity allows people to buy more jelly beans. |

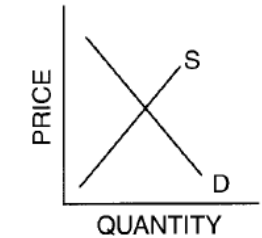
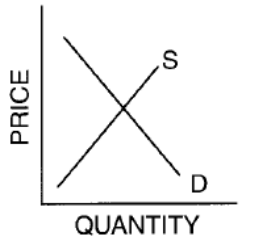
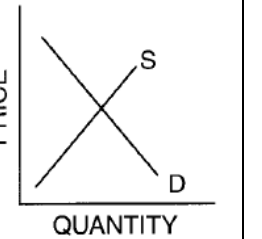
Part B: Apples, Pears, and Pies

Connecticut ships large amounts of apples to all parts of the United States by rail. Circle the words that show the effects on price and quantity for each situation, and complete the graphs below, showing how a hurricane that destroys apples before they are picked in Connecticut might affect the price and quantity of each commodity. Then provide your reasoning.

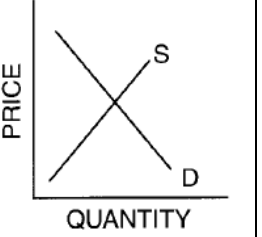
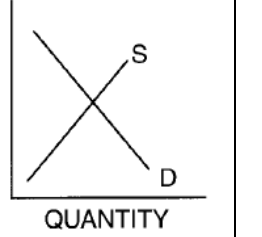
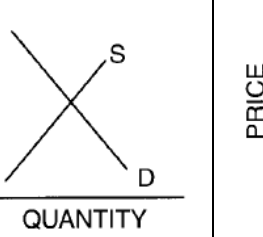
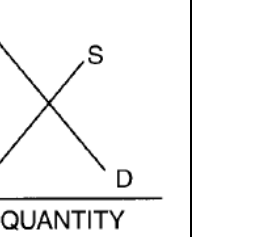
	Apples in Boston	Land devoted to apple orchards in the state of Washington	Apples grown in the state of Washington	Pears	Apple pies
	PRICE QUANTITY OF APPLES IN BOSTON	PRICE QUANTITY OF LAND IN WA ORCHARDS	PRICE QUANTITY OF WA APPLES	PRICE QUANTITY OF PEARS	PRICE QUANTITY OF APPLE PIES
Price?	↑ No Change ↓	↑ No Change ↓	↑ No Change ↓	↑ No Change ↓	↑ No Change ↓
Quantity?	↑ No Change ↓	↑ No Change ↓	↑ No Change ↓	↑ No Change ↓	↑ No Change ↓
Reason:					

The following questions refer to a group of related markets in the United States during a given time period. Assume that the markets are perfectly competitive and that the supply and demand model is completely applicable. The figures show the supply and demand in each market before the assumed change occurs. Trace through the effects of the assumed change, other things constant. Work your way from left to right. Shift only one curve in each market. For each market, draw whatever new supply or demand curves are needed, labeling each new curve S1 or D1. Then circle the correct symbol under each diagram (↑ for increase, “No Change” or ↓ for decrease). Remember to shift only one curve in each market.

1) Assume that a new fertilizer dramatically increases the amount of wheat that can be harvested with no additional labor or machinery. Also assume that this fertilizer does not affect potato farming and that people are satisfied to eat either bread made from wheat flour or potatoes.

	Wheat	Bread	Potatoes
			
<i>Change in Demand?</i>	↑ No Change ↓	↑ No Change ↓	↑ No Change ↓
<i>Change in Supply?</i>	↑ No Change ↓	↑ No Change ↓	↑ No Change ↓
<i>Change in Equilibrium Price?</i>	↑ No Change ↓	↑ No Change ↓	↑ No Change ↓
<i>Change in Equilibrium Quantity?</i>	↑ No Change ↓	↑ No Change ↓	↑ No Change ↓

2) Assume that a heavy frost destroys half the world's coffee crop and that people use more cream in coffee than they do in tea.

	Coffee	Tea	Creamer	Automatic Coffee Makers (Keurigs)
				
<i>Change in Demand?</i>	↑ No Change ↓	↑ No Change ↓	↑ No Change ↓	↑ No Change ↓
<i>Change in Supply?</i>	↑ No Change ↓	↑ No Change ↓	↑ No Change ↓	↑ No Change ↓
<i>Change in Equilibrium Price?</i>	↑ No Change ↓	↑ No Change ↓	↑ No Change ↓	↑ No Change ↓
<i>Change in Equilibrium Quantity?</i>	↑ No Change ↓	↑ No Change ↓	↑ No Change ↓	↑ No Change ↓