Power Point Accompaniment for

"Supply, Demand, and Market Equilibrium"

Introduction to Demand

- In the United States, the forces of supply and demand work together to set prices.
- **Demand** is the desire, willingness, and ability to buy a good or service.
  - Supply can refer to one individual consumer or to the total demand of all consumers in the market **(market demand)**.
- Based on that definition, which of the following do you have a demand for?

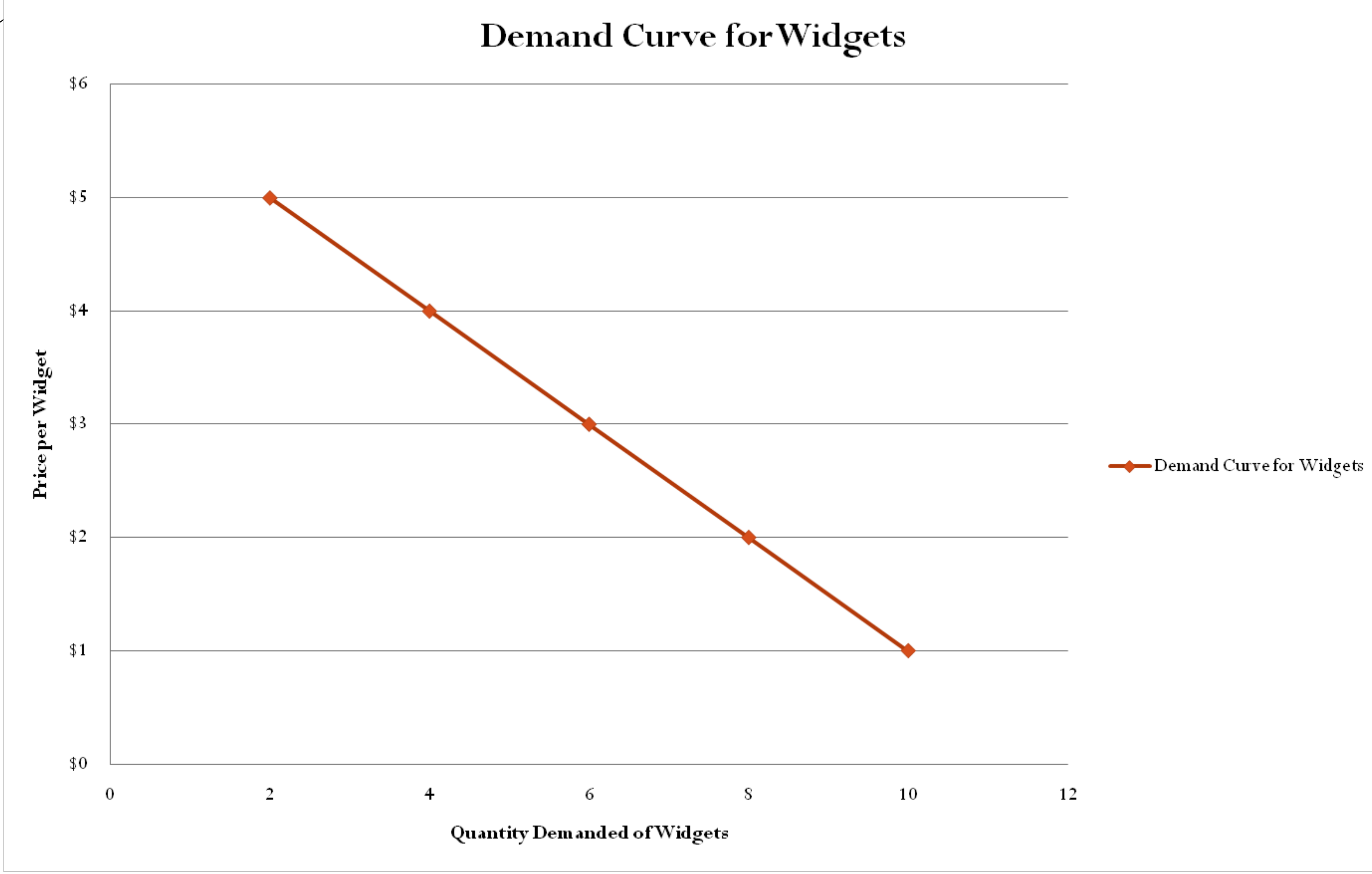
Introduction to Demand

- A **demand schedule** is a table that lists the various quantities of a product or service that someone is willing to buy over a range of possible prices.

Price per Widget ($)	Quantity Demanded of Widget per day
$5	2
$4	4
$3	6
$2	8
$1	10

Introduction to Demand

- A demand schedule can be shown as points on a graph.
  - The graph lists prices on the **vertical axis** and quantities demanded on the **horizontal axis**.
  - Each point on the graph shows how many units of the product or service an individual will buy at a particular price.
  - The **demand curve** is the line that connects these points.



What do you notice about the demand curve?

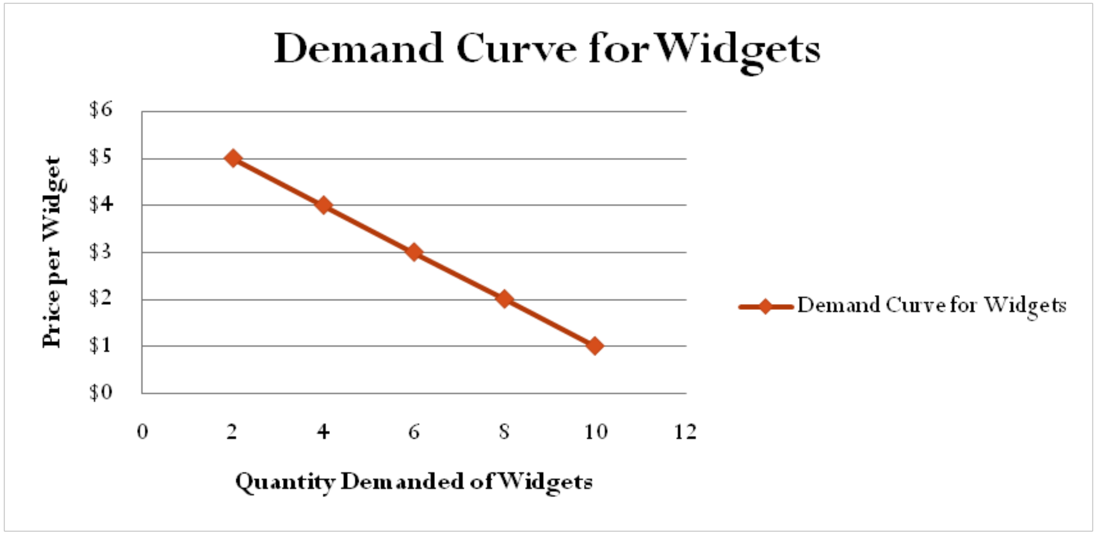
How would you describe the slope of the demand curve?

Do you think that price and quantity demanded tend to have this relationship?

Introduction to Demand

- The demand curve slopes downward.

  - This shows that people are normally willing to buy less of a product at a high price and more at a low price.
  - According to the **law of demand**, quantity demanded and price move in opposite directions.



Introduction to Demand

- We buy products for their **utility**- the pleasure, usefulness, or satisfaction they give us.
- What is your utility for the following products? (Measure your utility by the maximum amount you would be willing to pay for this product)

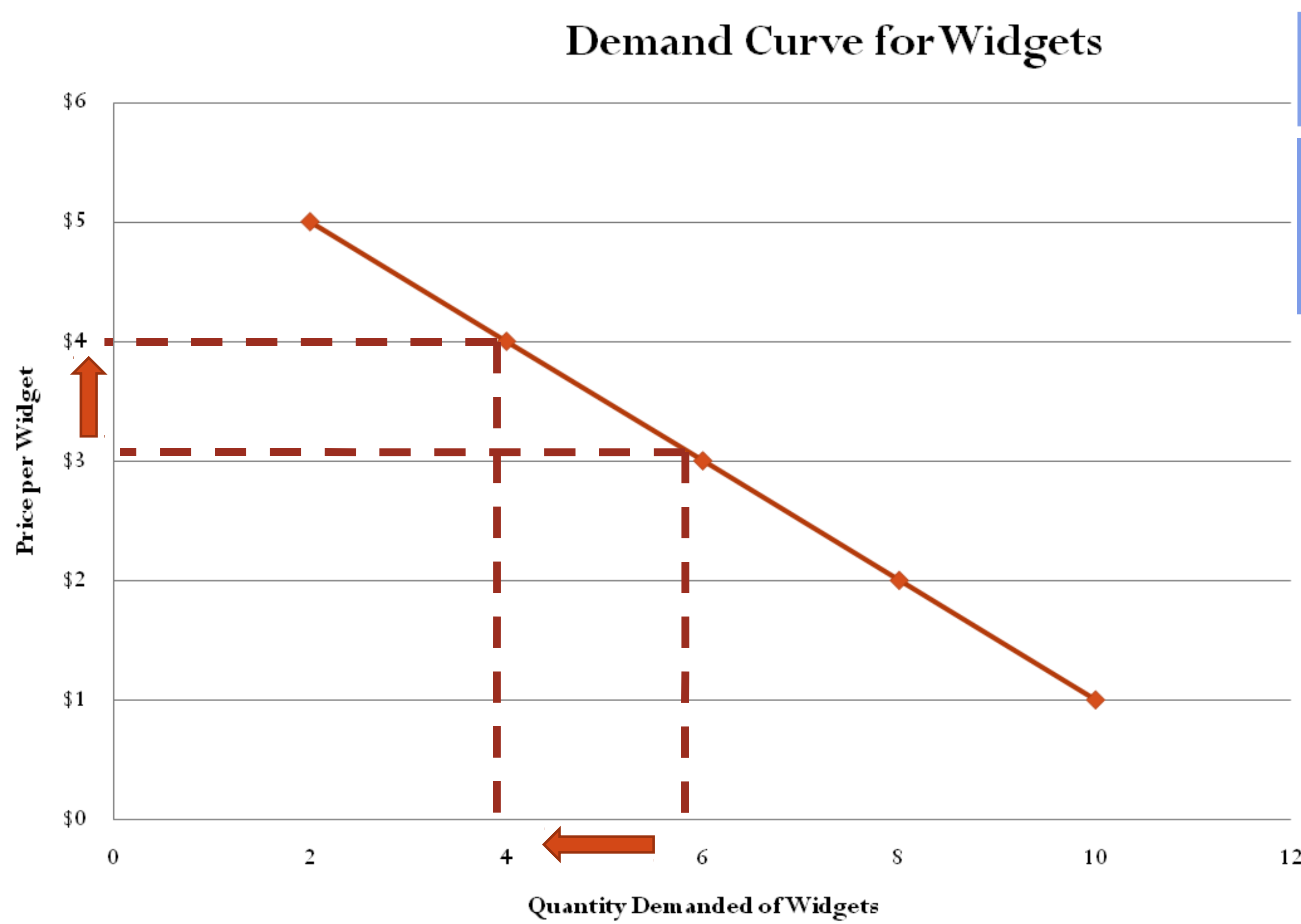
- Do we have the same utility for these goods?

Introduction to Demand

- One reason the demand curve slopes downward is due to diminish marginal utility
  - The **principle of diminishing marginal utility** says that our additional satisfaction tends to go down as we consume more and more units.
- To make a buying decision, we consider whether the satisfaction we expect to gain is worth the money we must give up.

Changes in Demand

- Change in the quantity demanded due to a price change occurs ALONG the demand curve



•At $3 per Widget, the Quantity demanded of widgets is 6.

•An increase in the Price of Widgets from $3 to $4 will lead to a decrease in the Quantity Demanded of Widgets from 6 to 4.

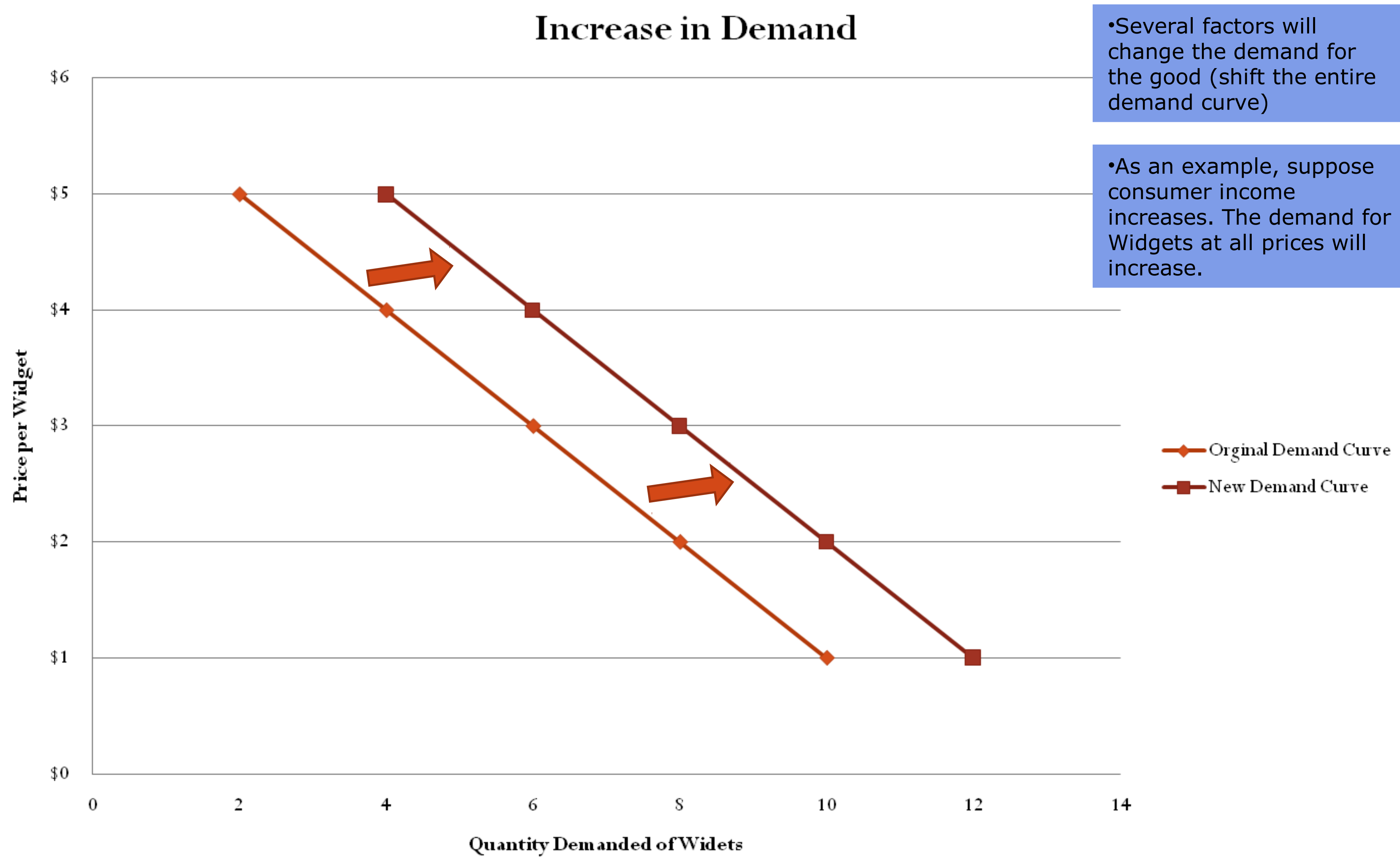
Changes in Demand

- Demand Curves can also shift in response to the following factors:
  - **B**uyers (# of): changes in the number of consumers
  - **I**ncome: changes in consumers' income
  - **T**astes: changes in preference or popularity of product/ service
  - **E**xpectations: changes in what consumers expect to happen in the future
  - **R**elated goods: compliments and substitutes
- **BITER:** factors that shift the demand curve

Changes in Demand

- Prices of related goods affect on demand
  - **<u>Substitute goods</u>**→ a substitute is a product that can be used in the place of another.
    - The price of the substitute good and demand for the other good are directly related
    - For example, Coke Price ↑ Pepsi Demand ↑
  - **<u>Complementary goods</u>**→ a compliment is a good that goes well with another good.
    - When goods are complements, there is an inverse relationship between the price of one and the demand for the other
    - For example, Peanut Butter ↑ Jam Demand ↓

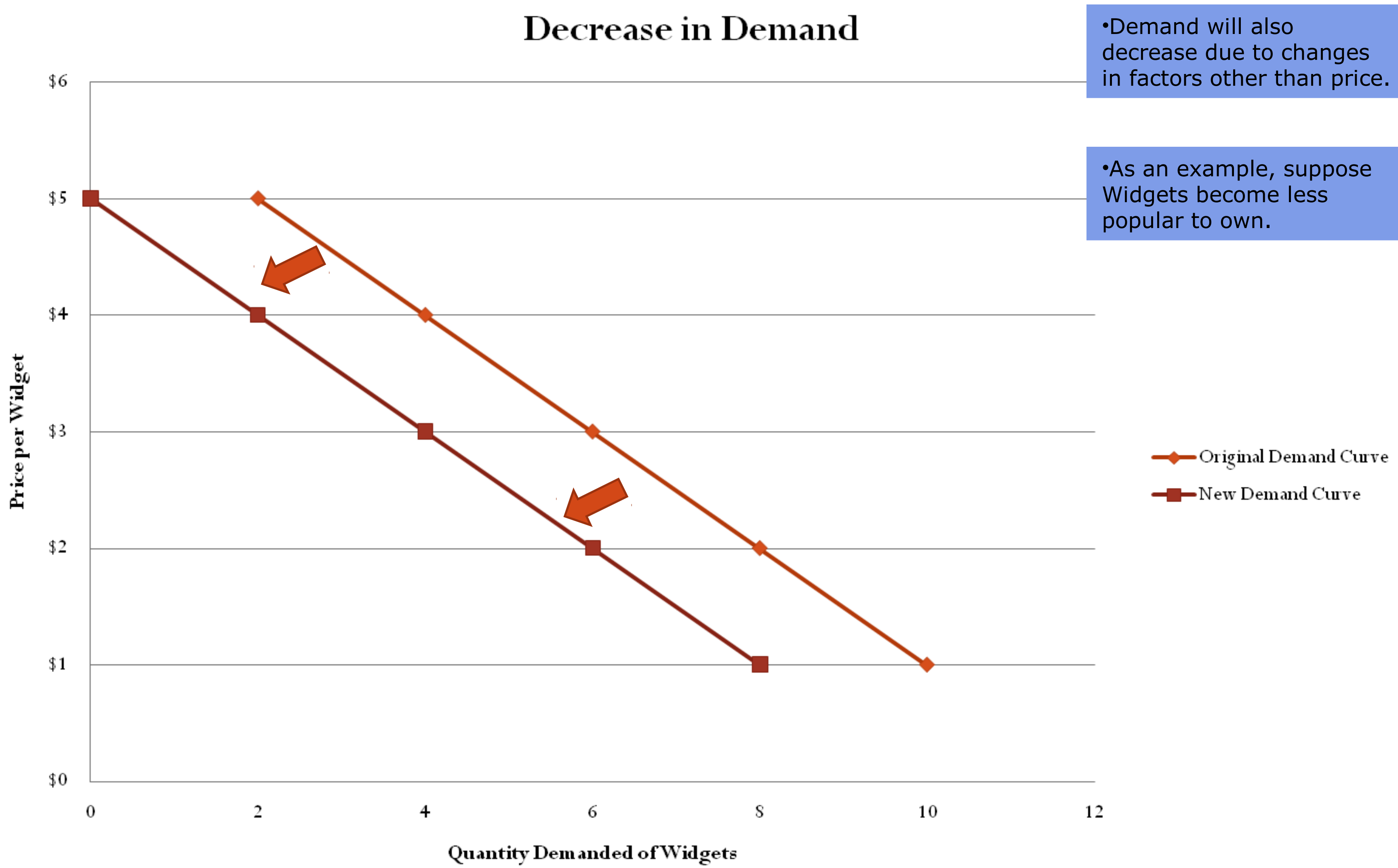
Changes in Demand



- Several factors will change the demand for the good (shift the entire demand curve)

- As an example, suppose consumer income increases. The demand for Widgets at all prices will increase.

Changes in Demand



•Demand will also decrease due to changes in factors other than price.

•As an example, suppose Widgets become less popular to own.

Changes in Demand

Changes in any of the factors **other than price** causes the demand curve to shift either:

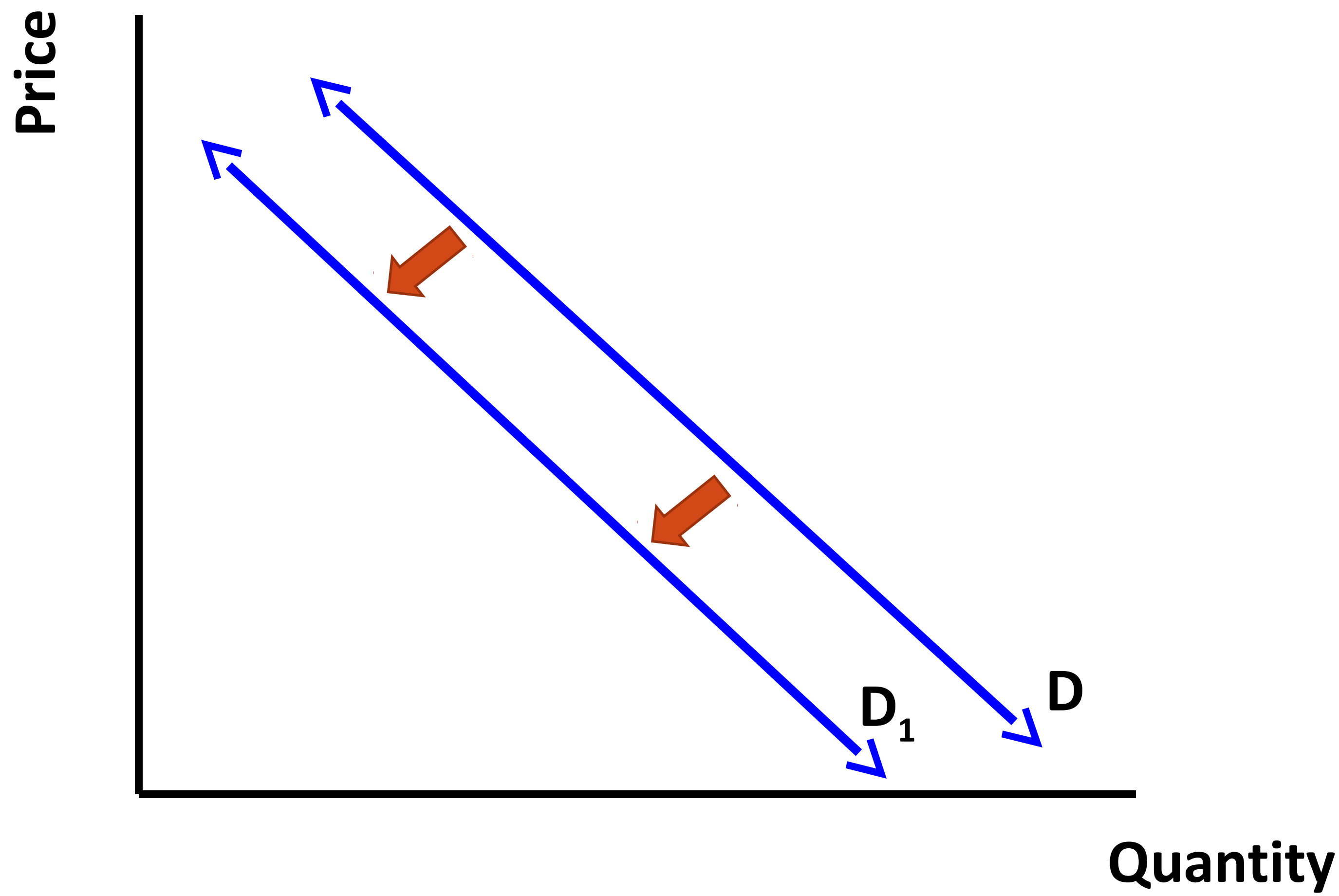
- Decrease in Demand shifts to the Left (Less demanded at each price)

OR

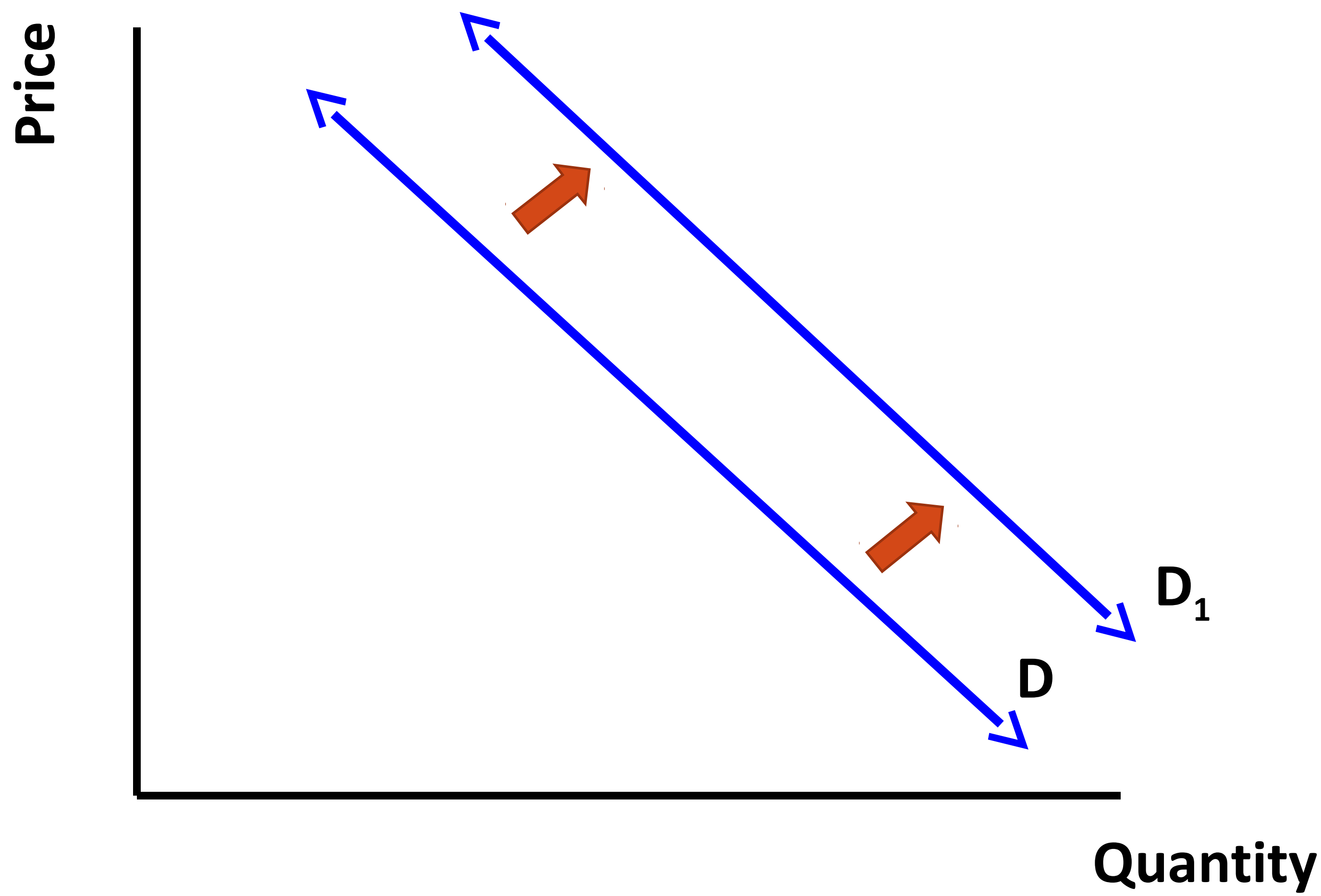
- Increase in Demand shifts to the Right (More demanded at each price)

Demand Practice Answers

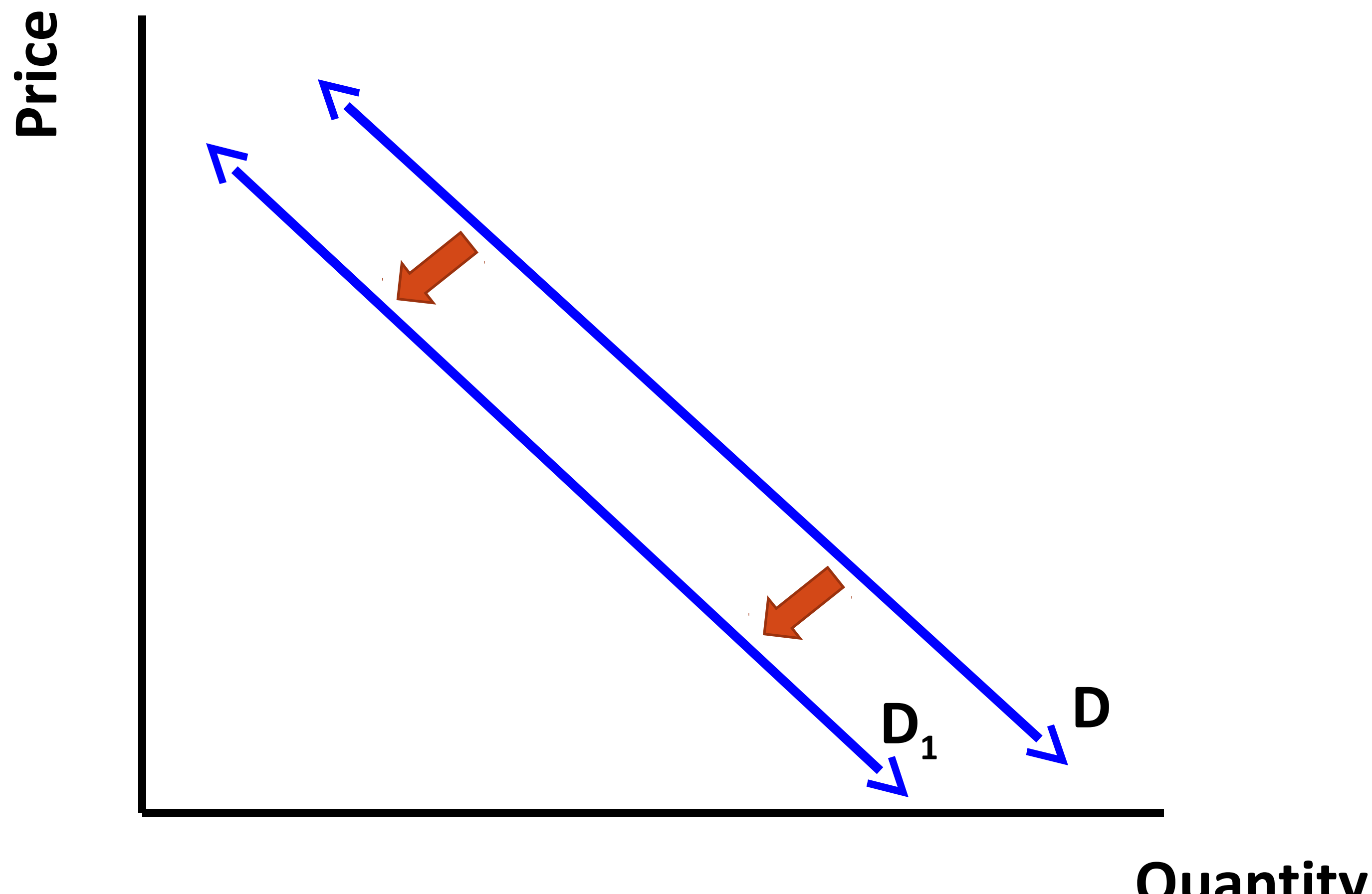
1. The income of the Pago-Pagans declines after a typhoon hits the island.



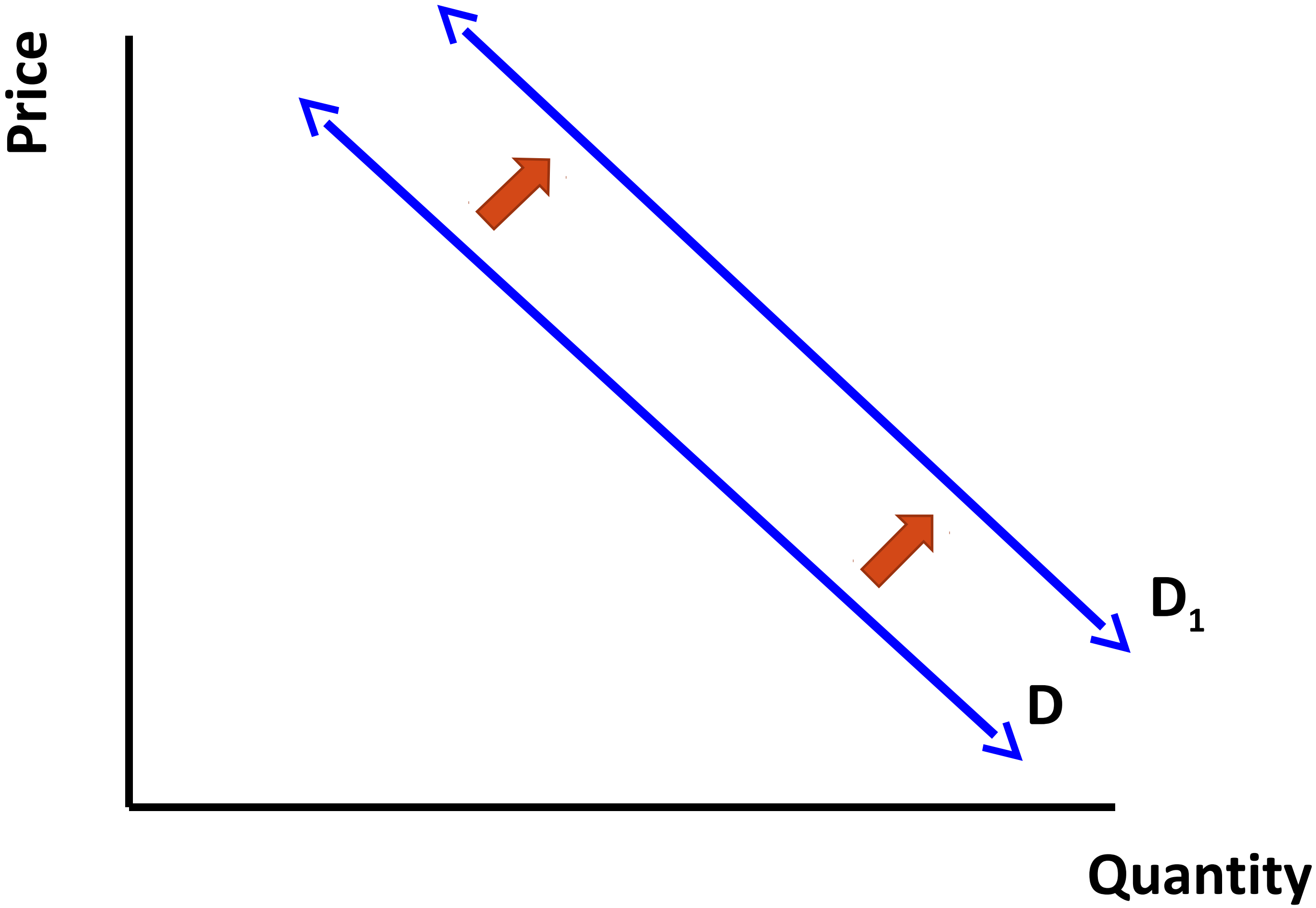
2. Pago-Pagan is named on of the most beautiful islands in the world and tourism to the island doubles.



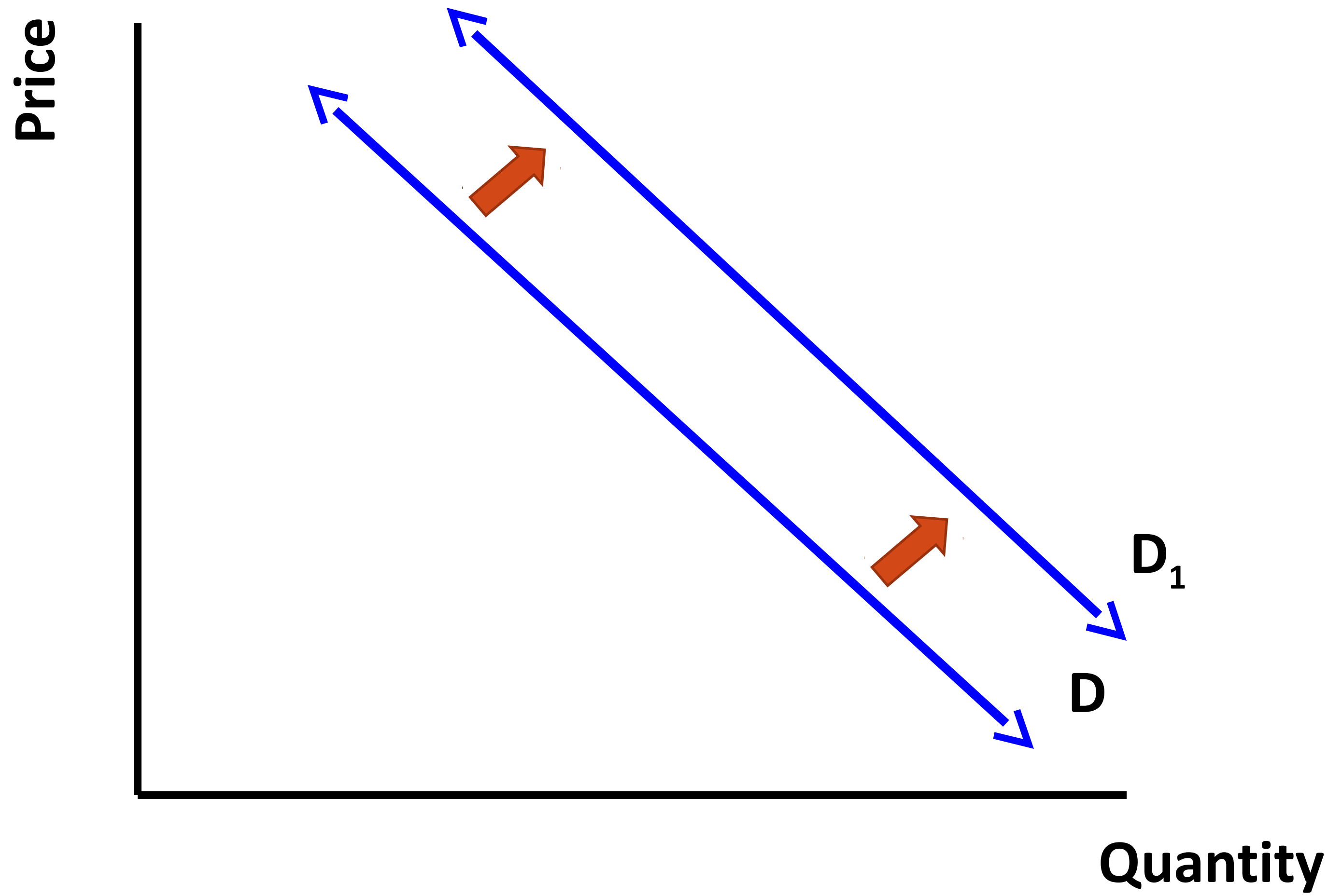
3. The price of Frisbees decreases. (Frisbees are a **substitute good** for boomerangs)



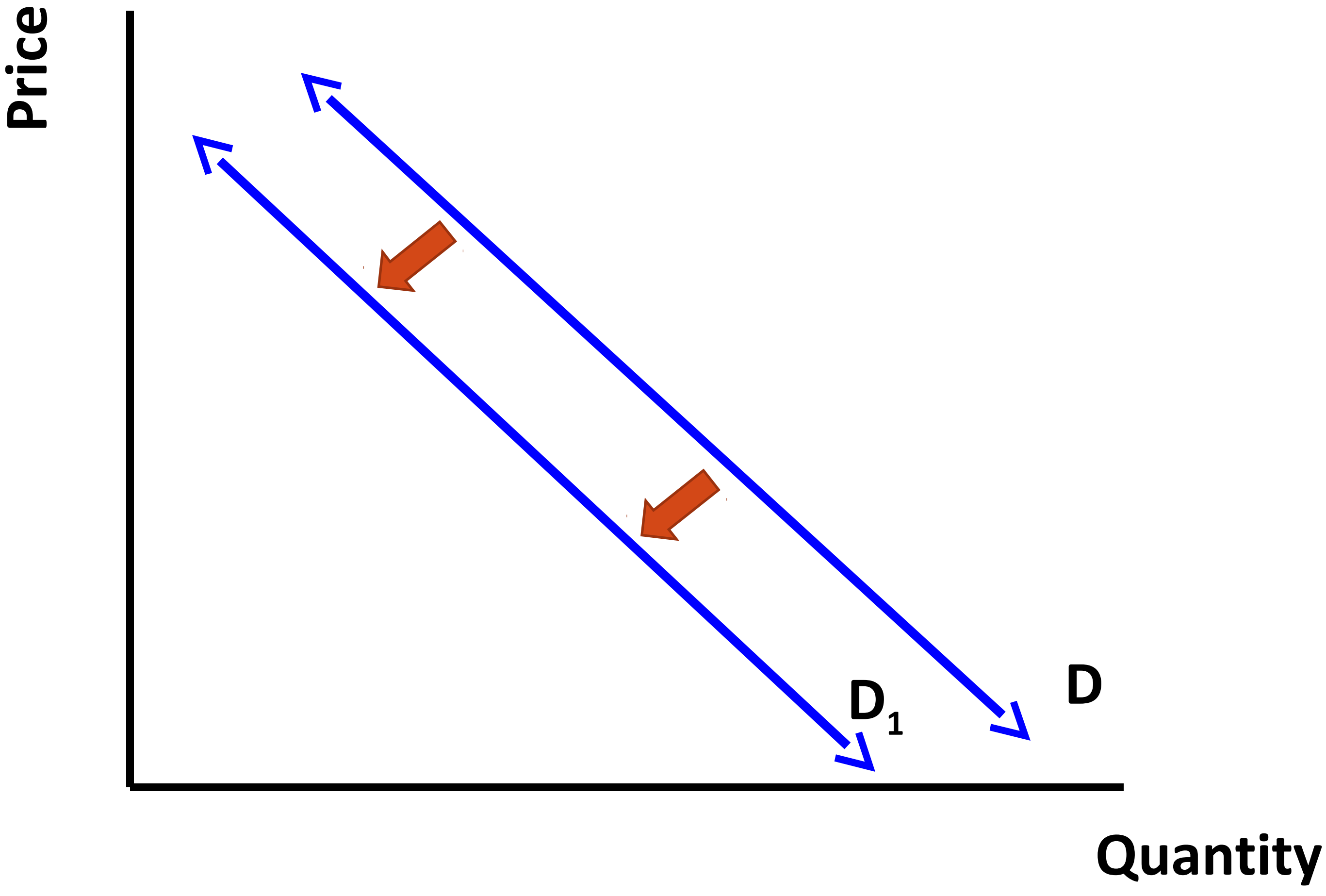
4. The price of boomerang t-shirts decreases, which I assume all of you know are a **complementary good**.



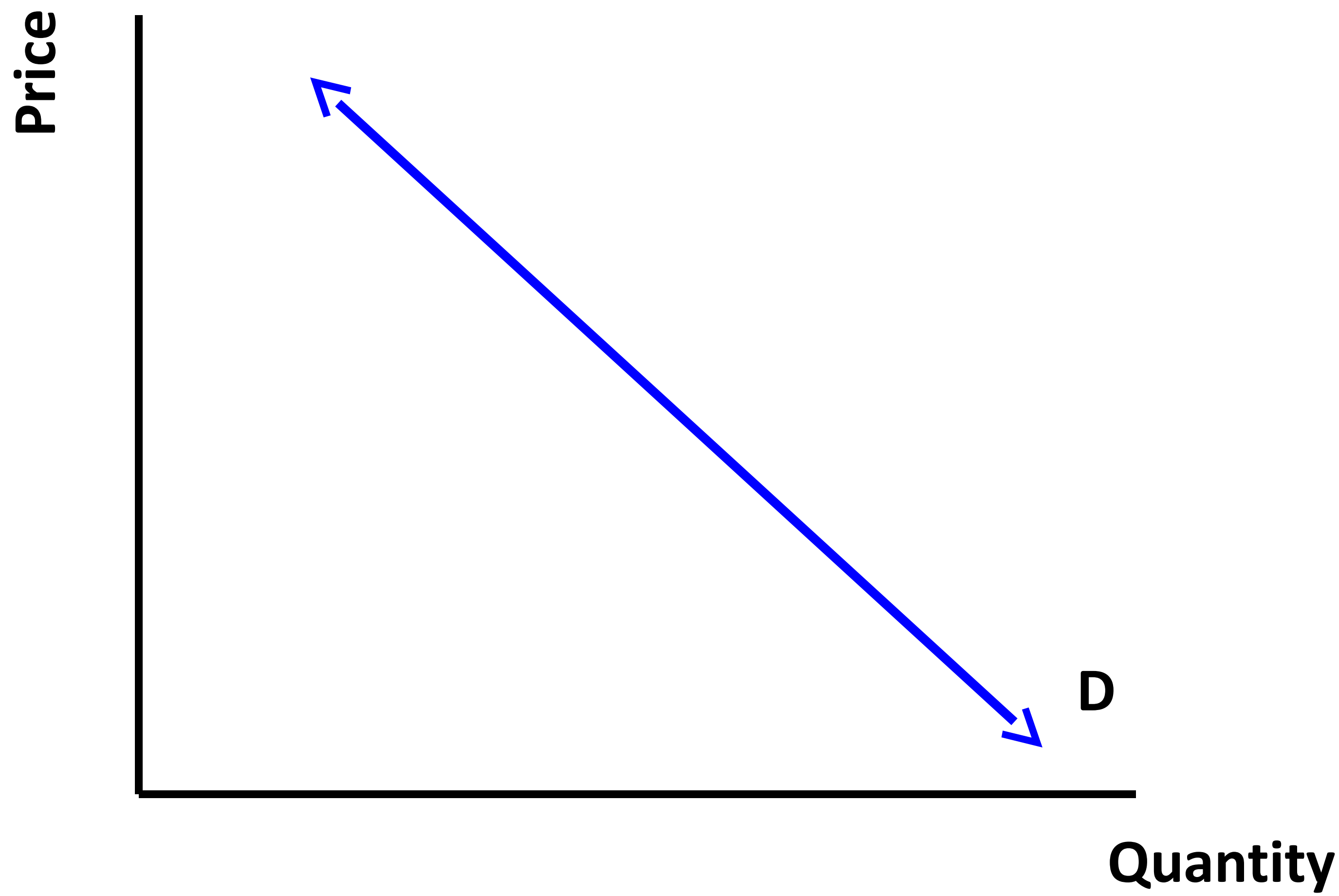
5. The Boomerang Manufactures decide to add a money back guarantee on their product, which increases the popularity for them.



6. Many Pago-pagans begin to believe that they may lose their jobs in the near future. (Think expectations!)



7. Come up with your own story about boomerangs and the Pago-Pagans. Write down the story, draw the change in demand based on the story, and explain why demand changed.



Introduction to Supply

- **Supply** refers to the various quantities of a good or service that producers are willing to sell at all possible market prices.

- Supply can refer to the output of one producer or to the total output of all producers in the market **(market supply)**.

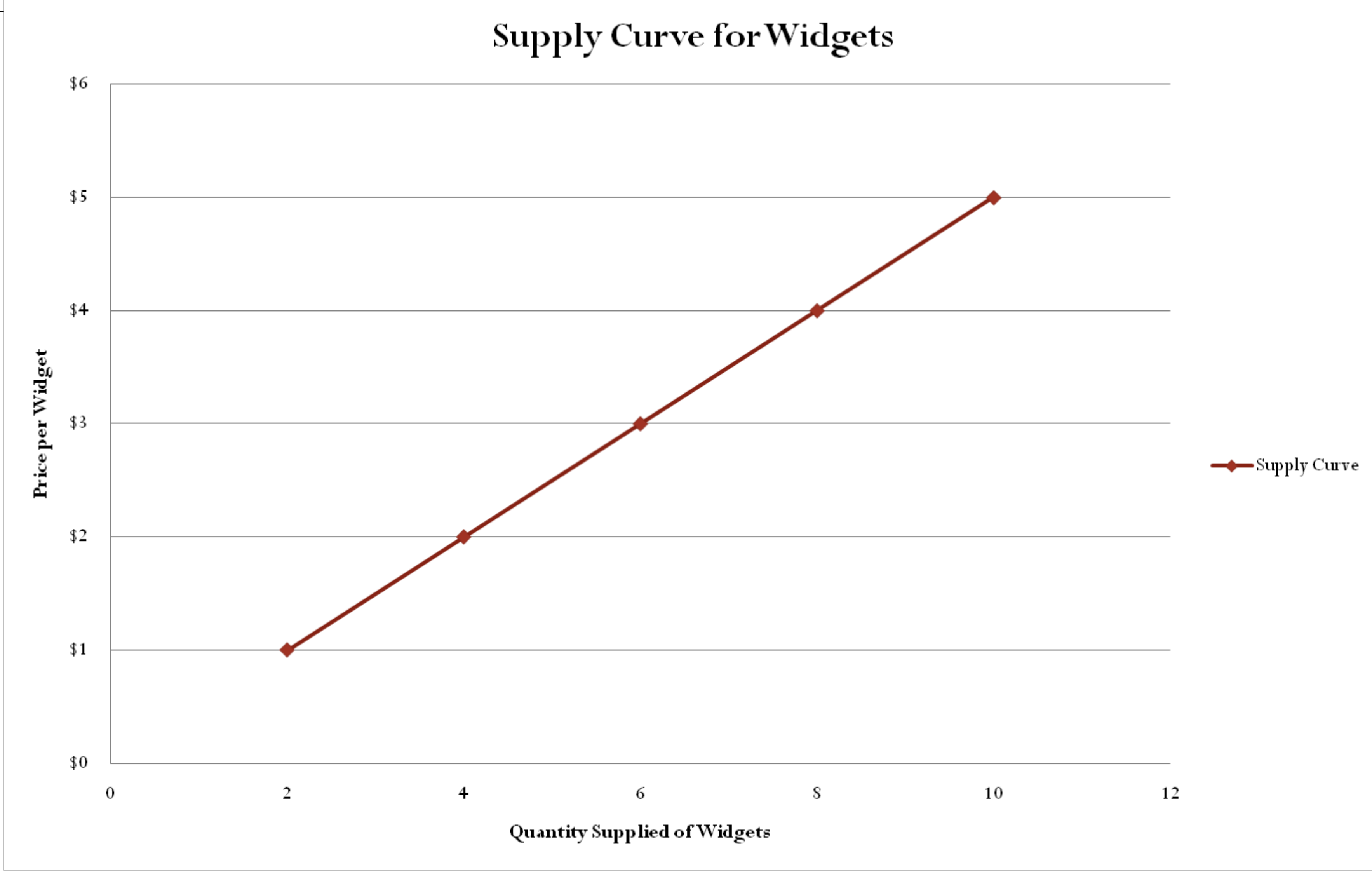
Introduction to Supply

- A **supply schedule** is a table that shows the quantities producers are willing to supply at various prices

Price per Widget ($)	Quantity Supplied of Widget per day
$5	10
$4	8
$3	6
$2	4
$1	2

Introduction to Supply

- A supply schedule can be shown as points on a graph.
  - The graph lists prices on the **vertical axis** and quantities supplied on the **horizontal axis**.
  - Each point on the graph shows how many units of the product or service a producer (or group of producers) would willing sell at a particular price.
  - The **supply curve** is the line that connects these points.



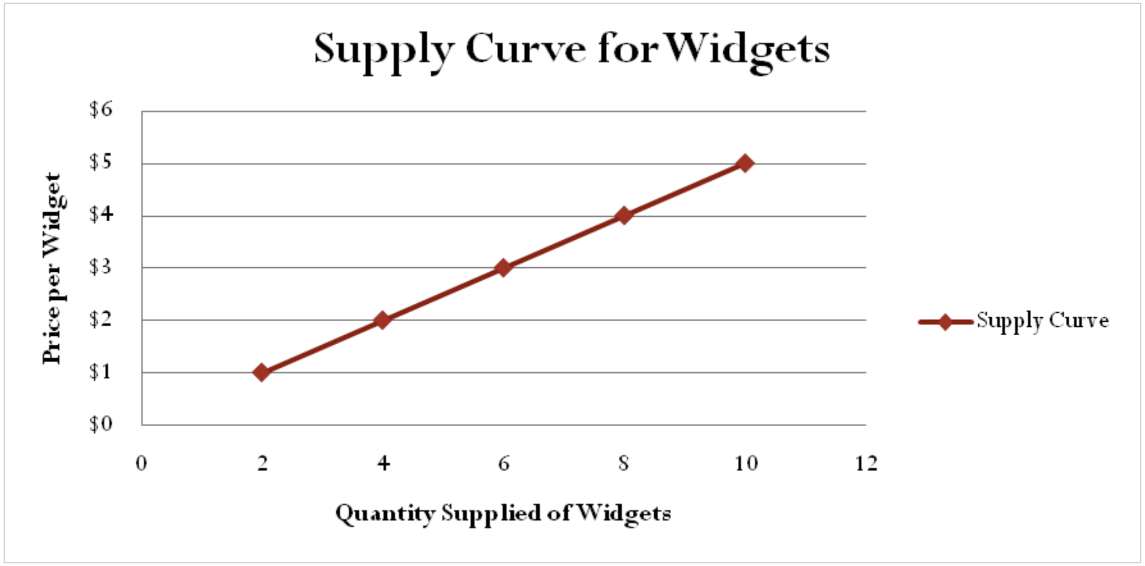
What do you notice about the supply curve?

How would you describe the slope of the supply curve?

Do you think that price and quantity supplied tend to have this relationship?

Introduction to Supply

- As the price for a good rises, the quantity supplied rises and the quantity demanded falls. As the price falls, the quantity supplied falls and the quantity demanded rises.
- The **law of supply** holds that producers will normally offer more for sale at higher prices and less at lower prices.



Introduction to Supply

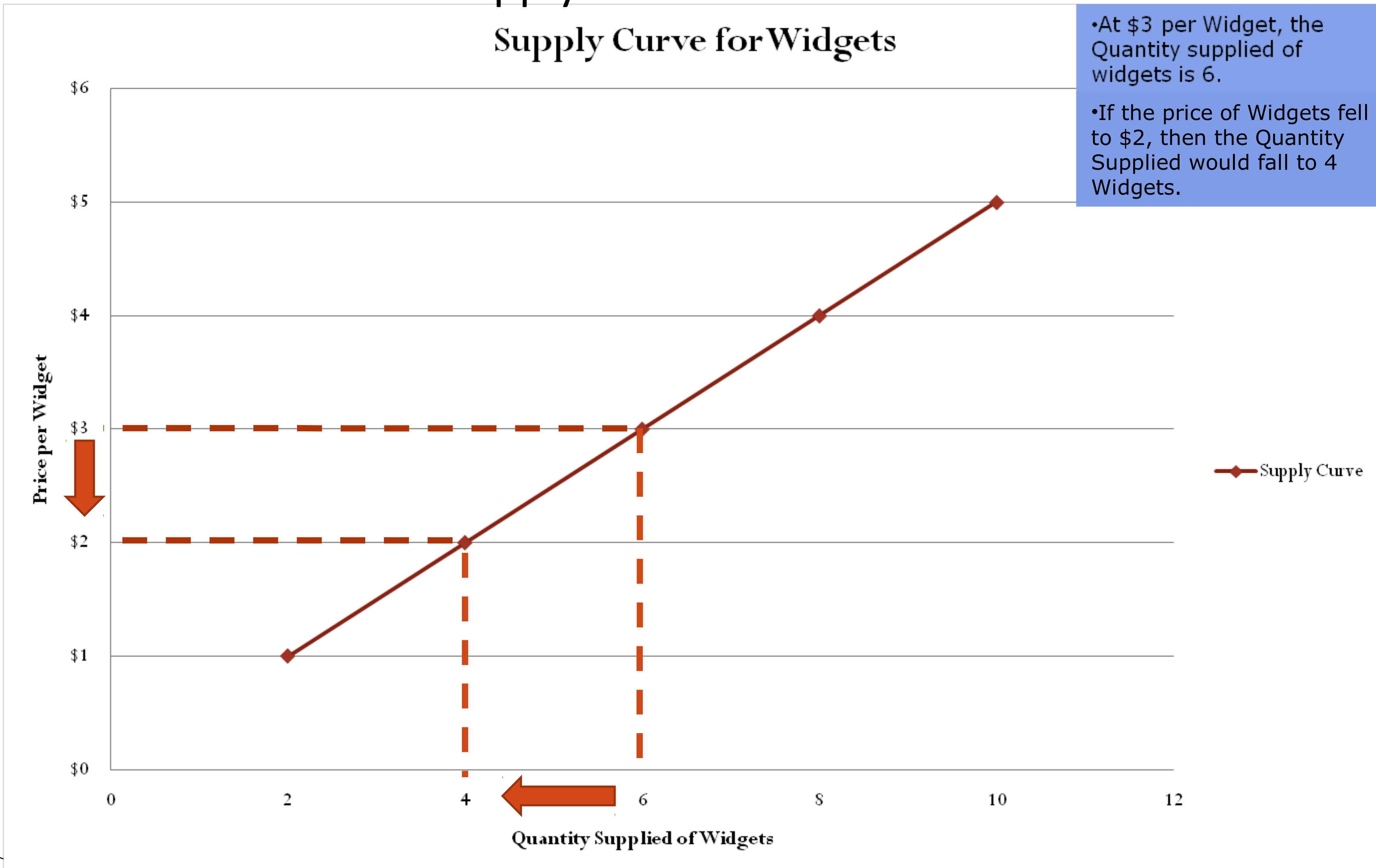
- The reason the supply curve slopes upward is due to costs and profit.
- Producers purchase resources and use them to produce output.
  - Producers will incur costs as they bid resources away from their alternative uses.

Introduction to Supply

- Businesses provide goods and services hoping to make a profit.
  - **Profit** is the money a business has left over after it covers its costs.
  - Businesses try to sell at prices high enough to cover their costs with some profit left over.
  - The higher the price for a good, the more profit a business will make after paying the cost for resources.

Changes in Supply

- Change in the quantity supplied due to a price change occurs ALONG the supply curve

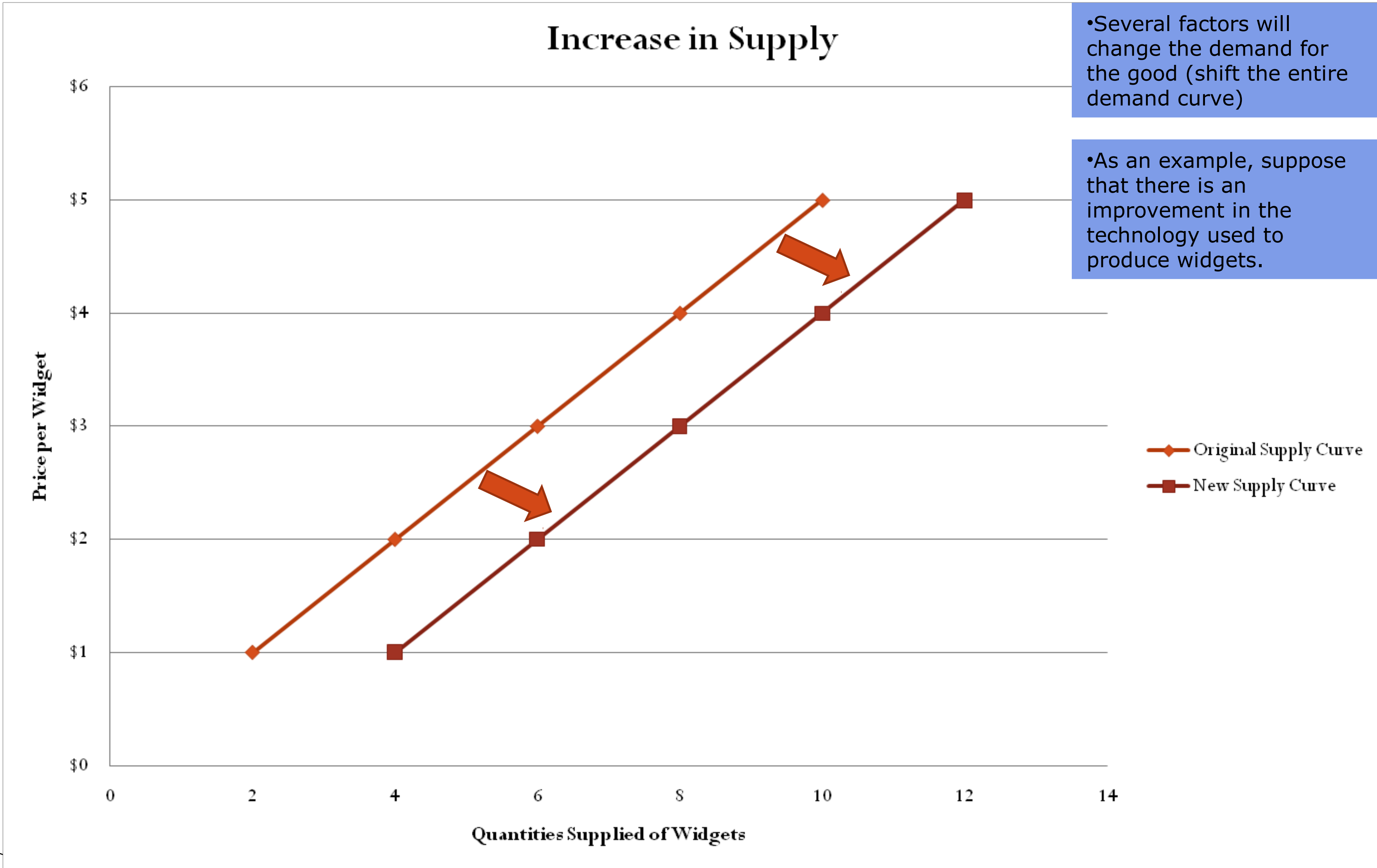


- At $3 per Widget, the Quantity supplied of widgets is 6.
- If the price of Widgets fell to $2, then the Quantity Supplied would fall to 4 Widgets.

Changes in Supply

- Supply Curves can also shift in response to the following factors:
  - **S**ubsidies and taxes: government subsides encourage production, while taxes discourage production
  - **T**echnology: improvements in production increase ability of firms to supply
  - **O**ther goods: businesses consider the price of goods they could be producing
  - **N**umber of sellers: how many firms are in the market
  - **E**xpectations: businesses consider future prices and economic conditions
  - **R**esource costs: cost to purchase factors of production will influence business decisions
- **STONER**: factors that shift the supply curve

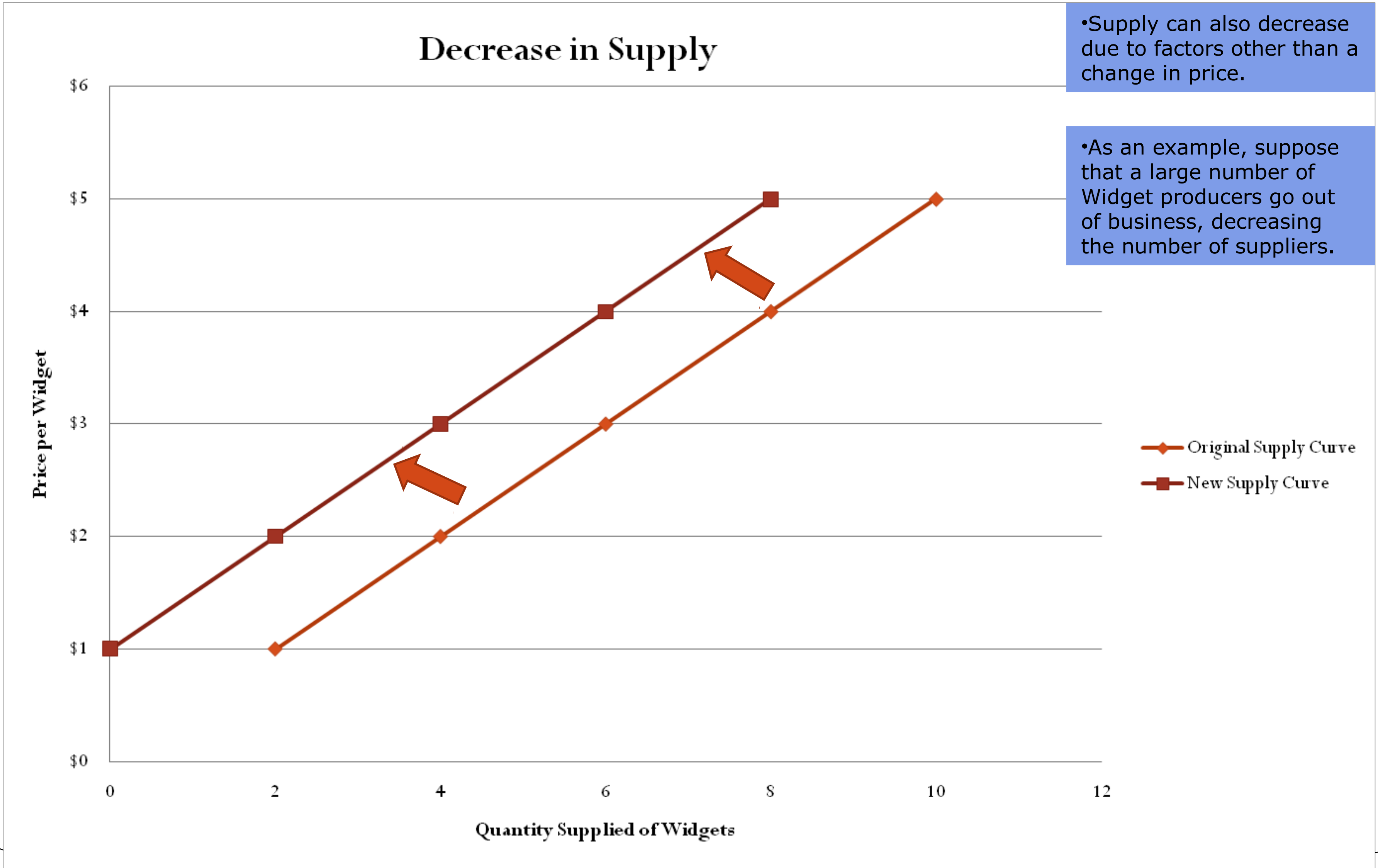
Changes in Supply



•Several factors will change the demand for the good (shift the entire demand curve)

•As an example, suppose that there is an improvement in the technology used to produce widgets.

Changes in Supply



- Supply can also decrease due to factors other than a change in price.

- As an example, suppose that a large number of Widget producers go out of business, decreasing the number of suppliers.

Changes in Supply

Changes in any of the factors **other than price** causes the supply curve to shift either:

- Decrease in Supply shifts to the Left (Less supplied at each price)

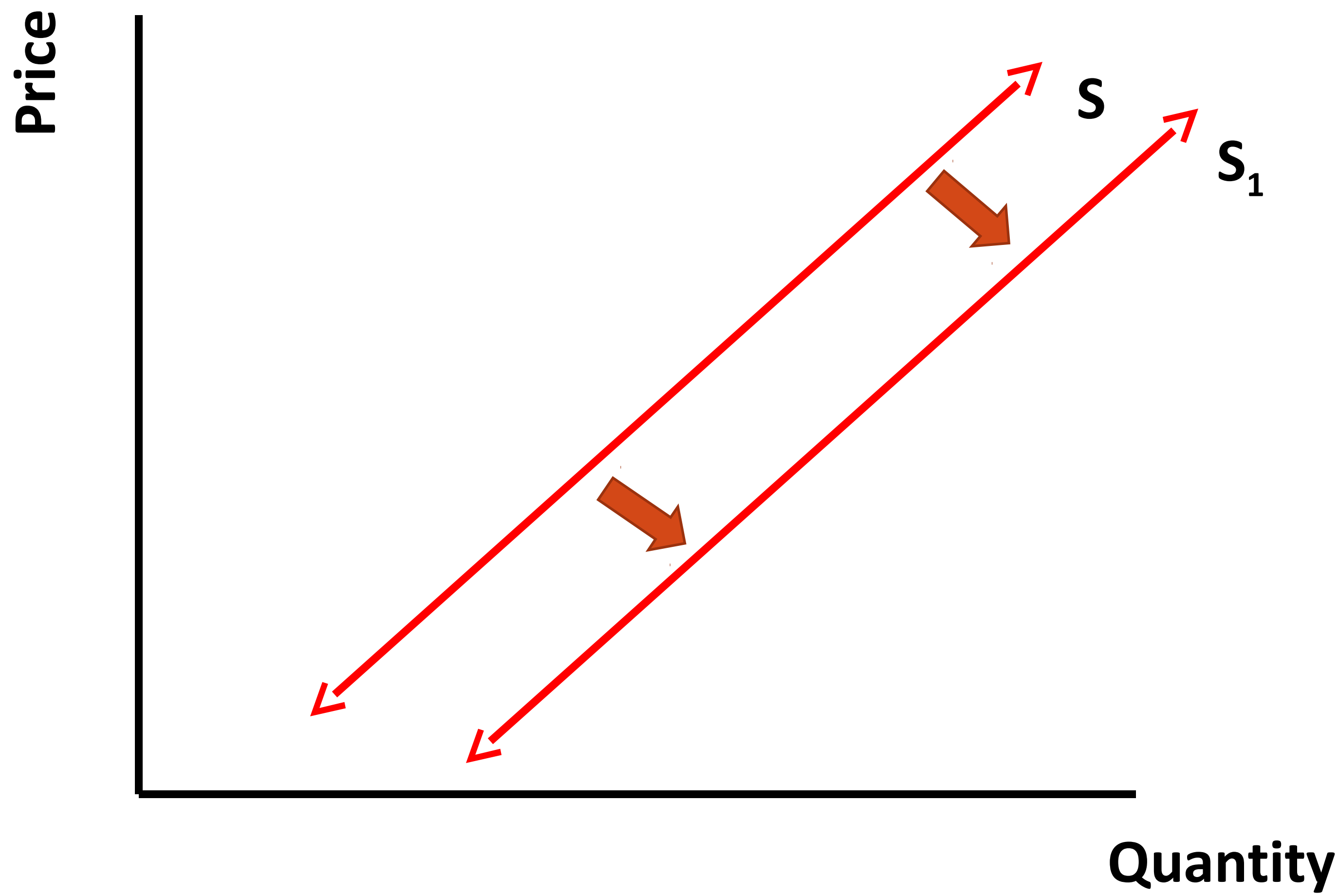
OR

- Increase in Supply shifts to the Right (More supplied at each price)

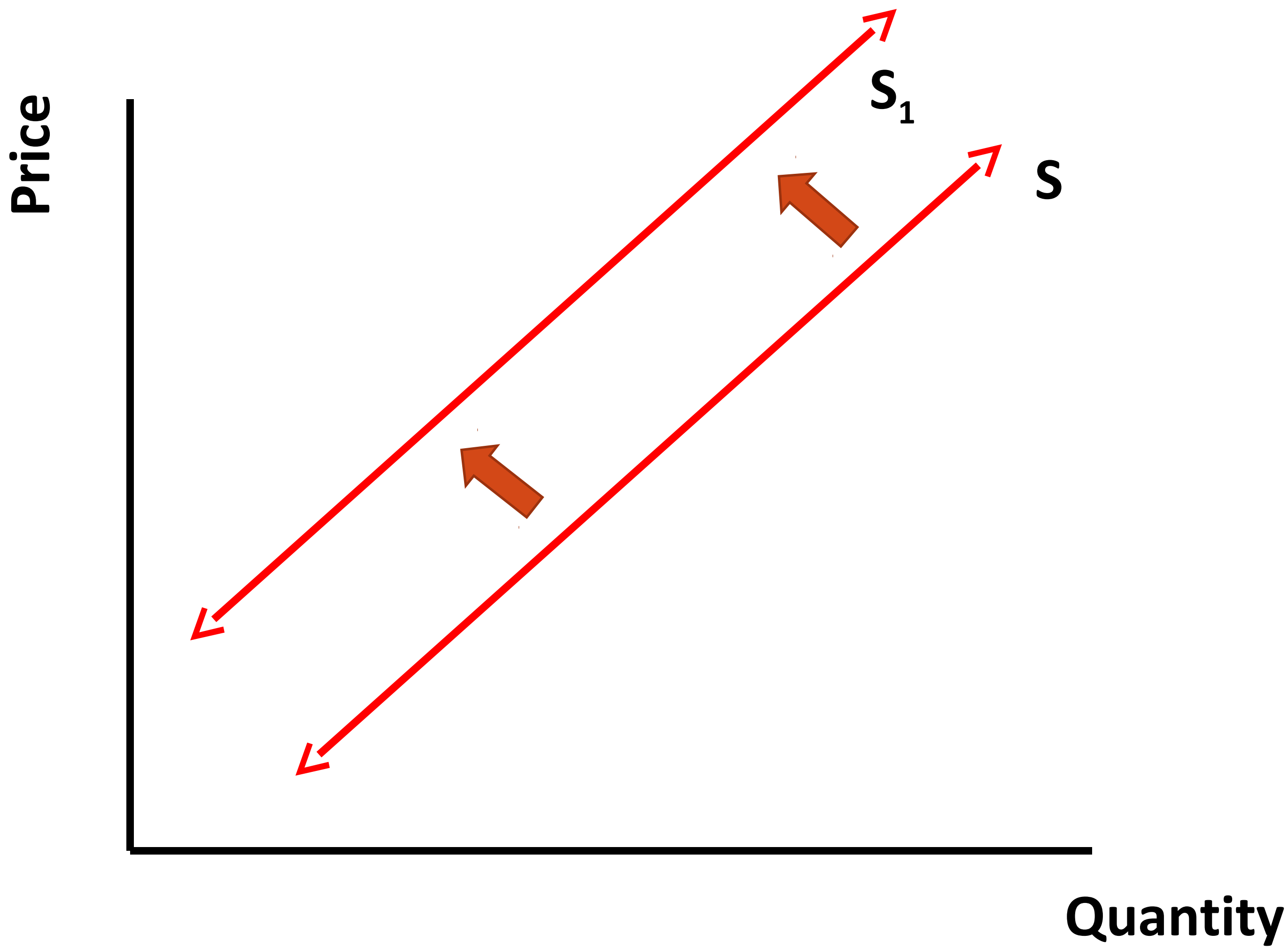
Supply Practice Answers

	Cost to Produce	Amount of Supply	Supply Curve Shifts
Cost of Resources Falls	↓	↑	→
Cost of Resources Rises	↑	↓	←
Productivity Decreases	↑	↓	←
Productivity Increases	↓	↑	→
New Technology	↓	↑	→
Higher Taxes	↑	↓	←
Lower Taxes	↓	↑	→
Government Pays Subsidy	↓	↑	→

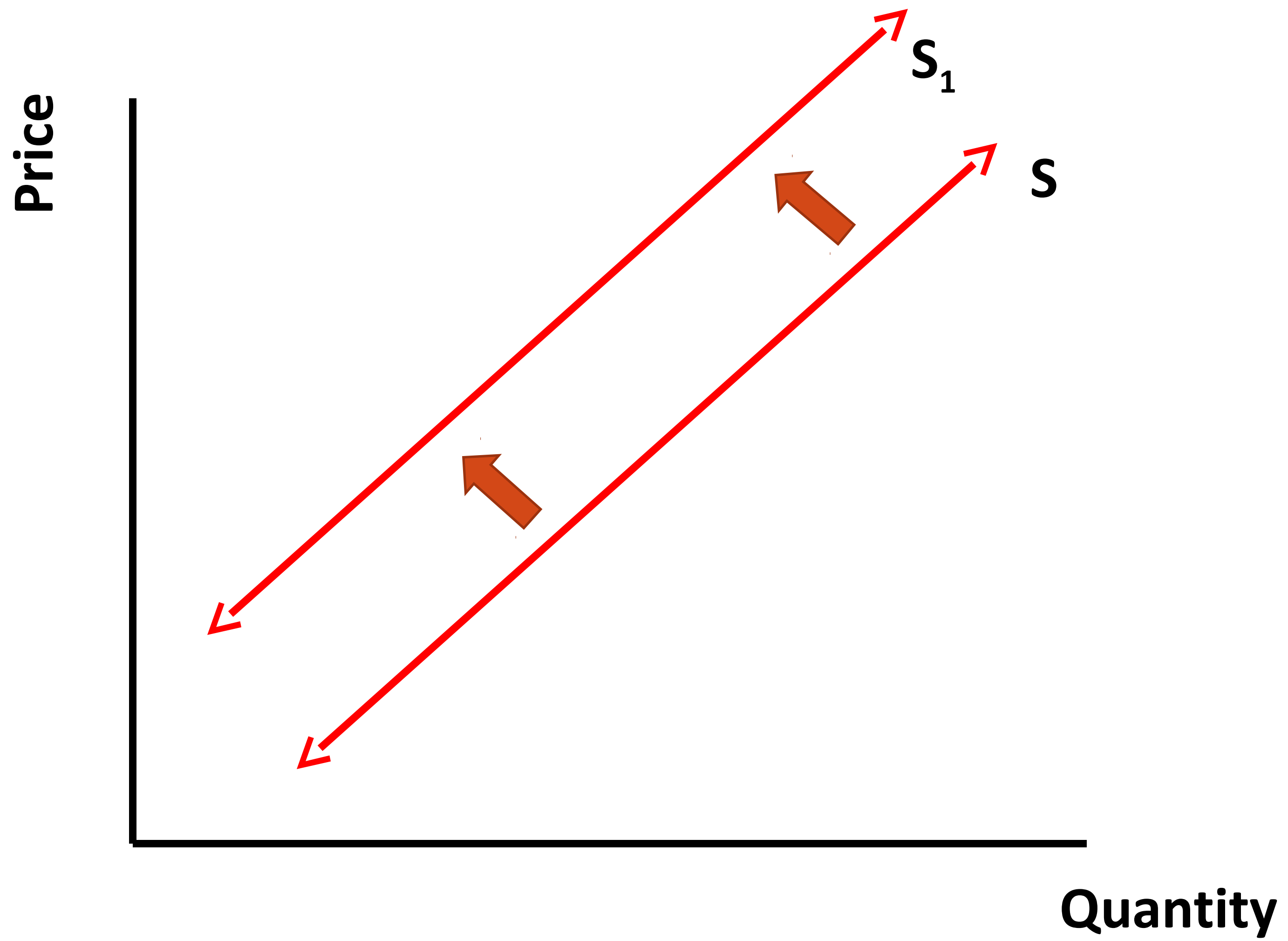
1. The government of Pago-Paga adds a subsidy to boomerang production.



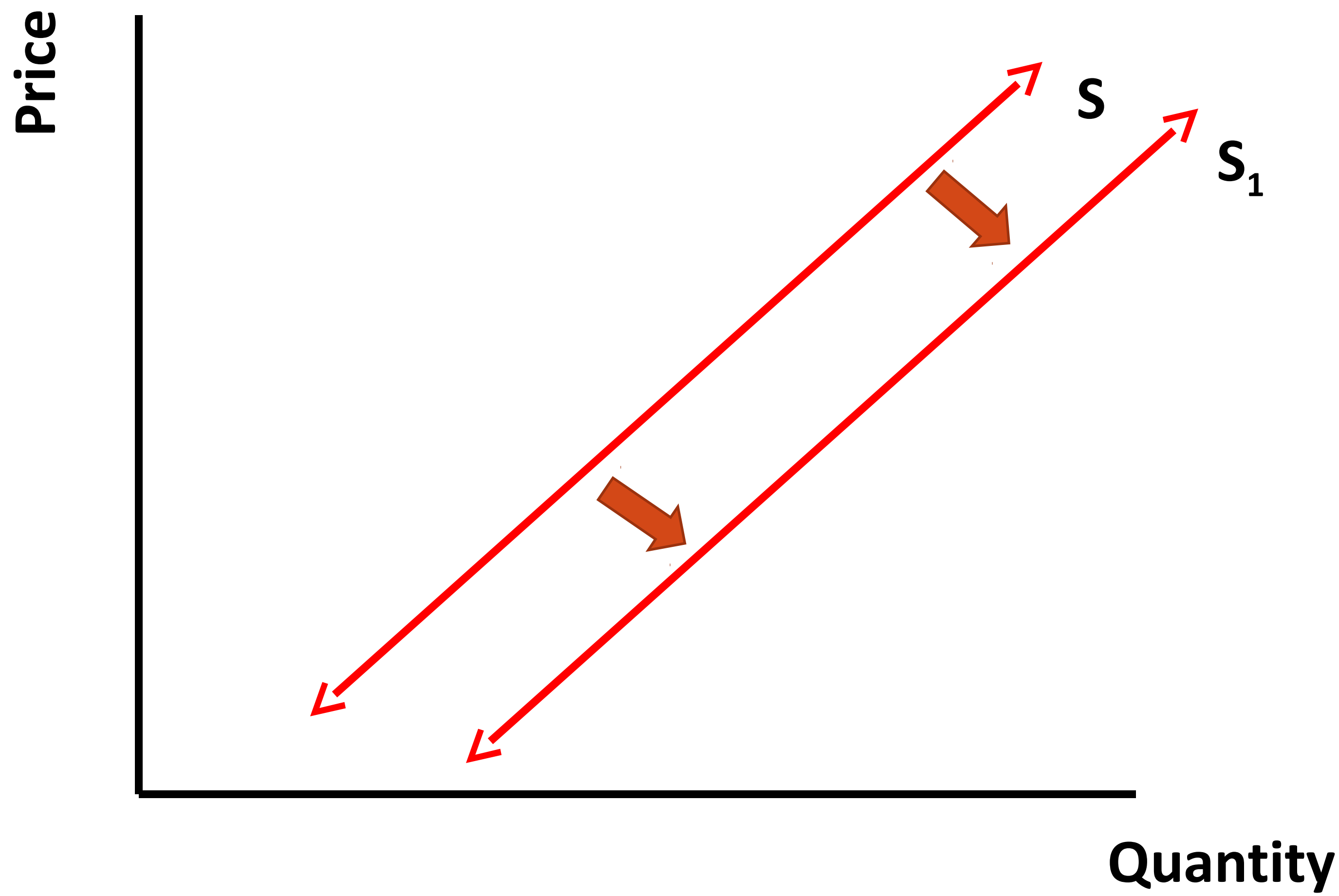
2. Boomerang producers also produce Frisbees. The price of Frisbees goes up.



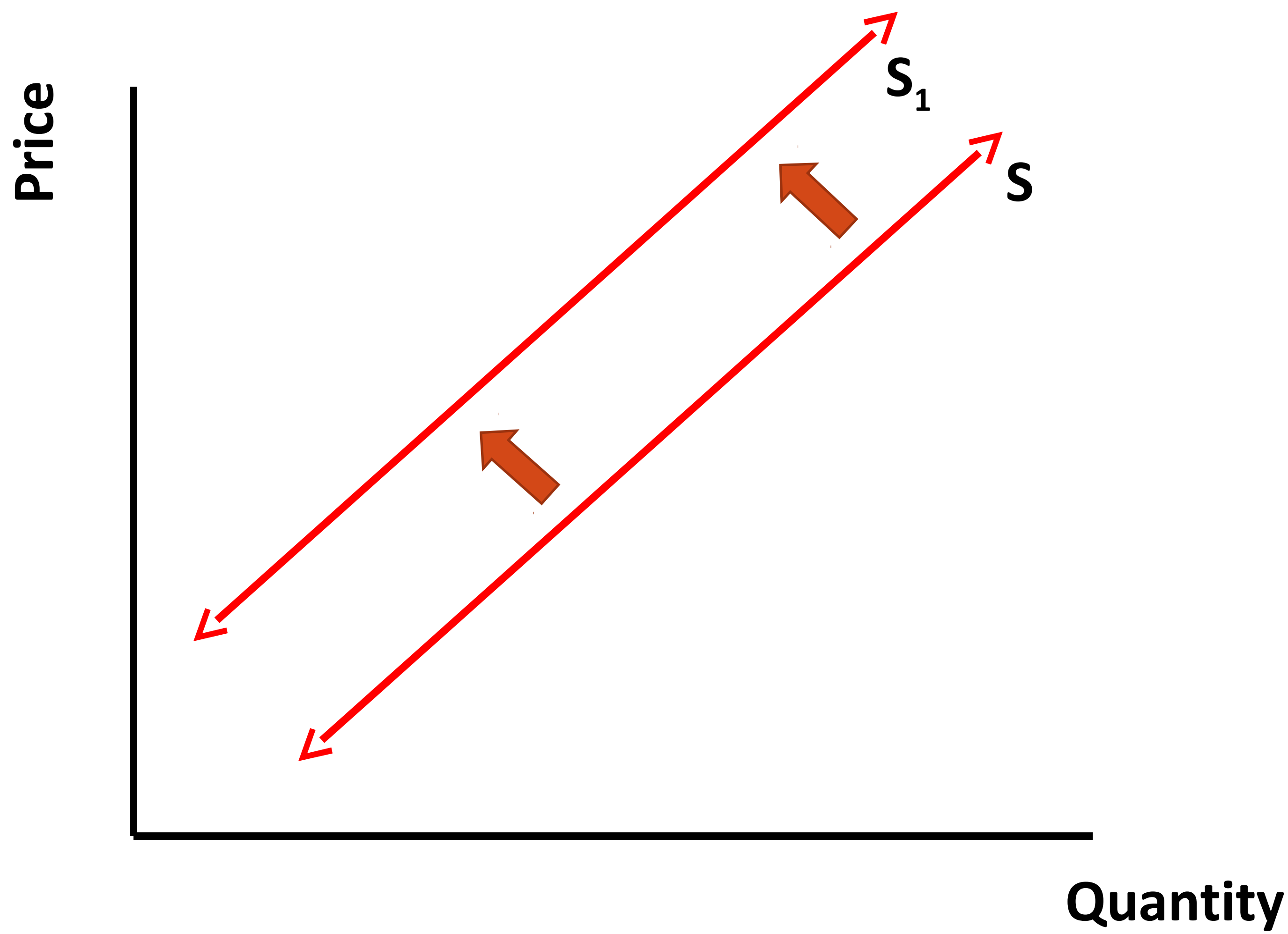
3. The government of Pago-Paga adds a new tax to boomerang production.



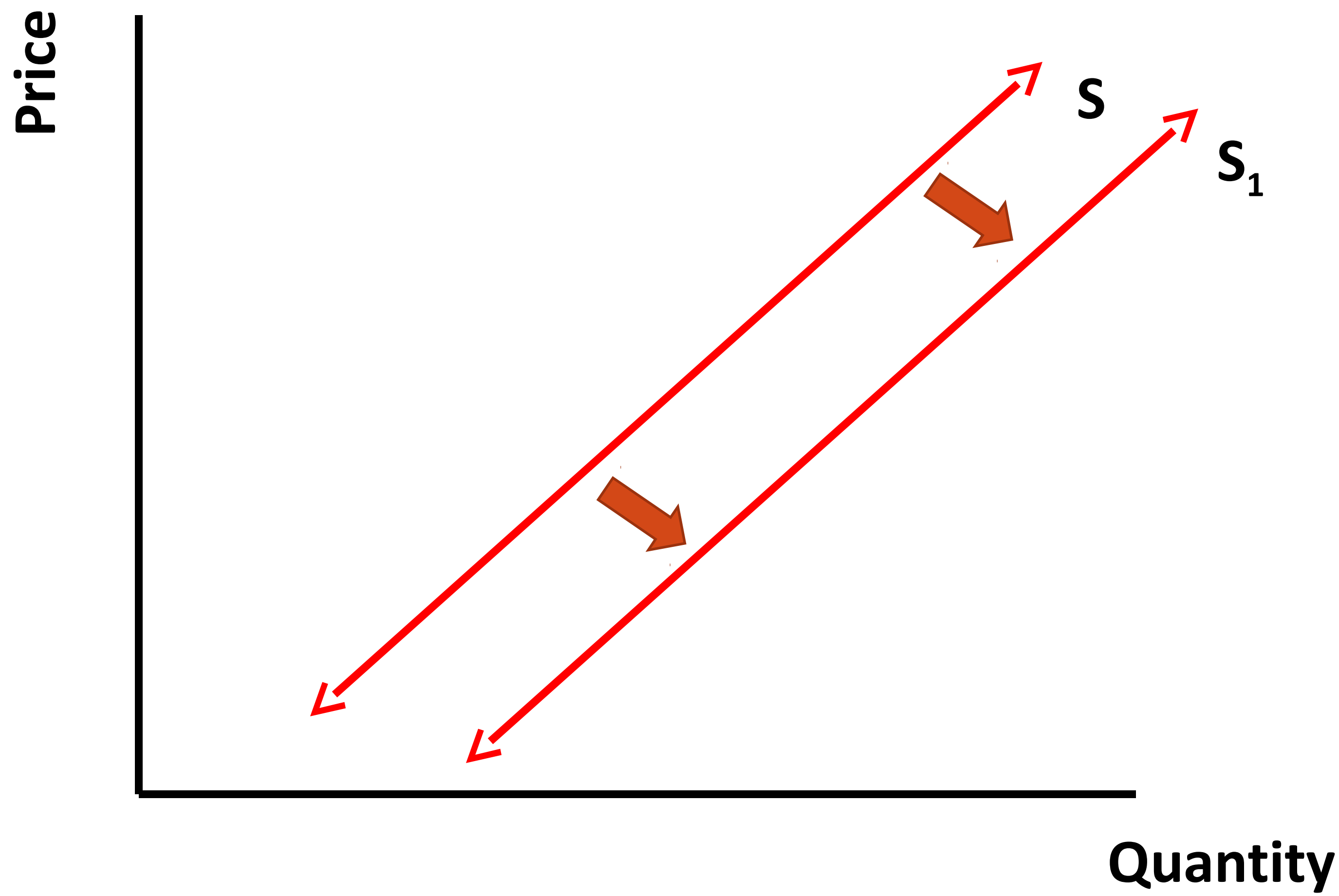
4. Boomerang producers expect an increase in the popularity of boomerangs worldwide.



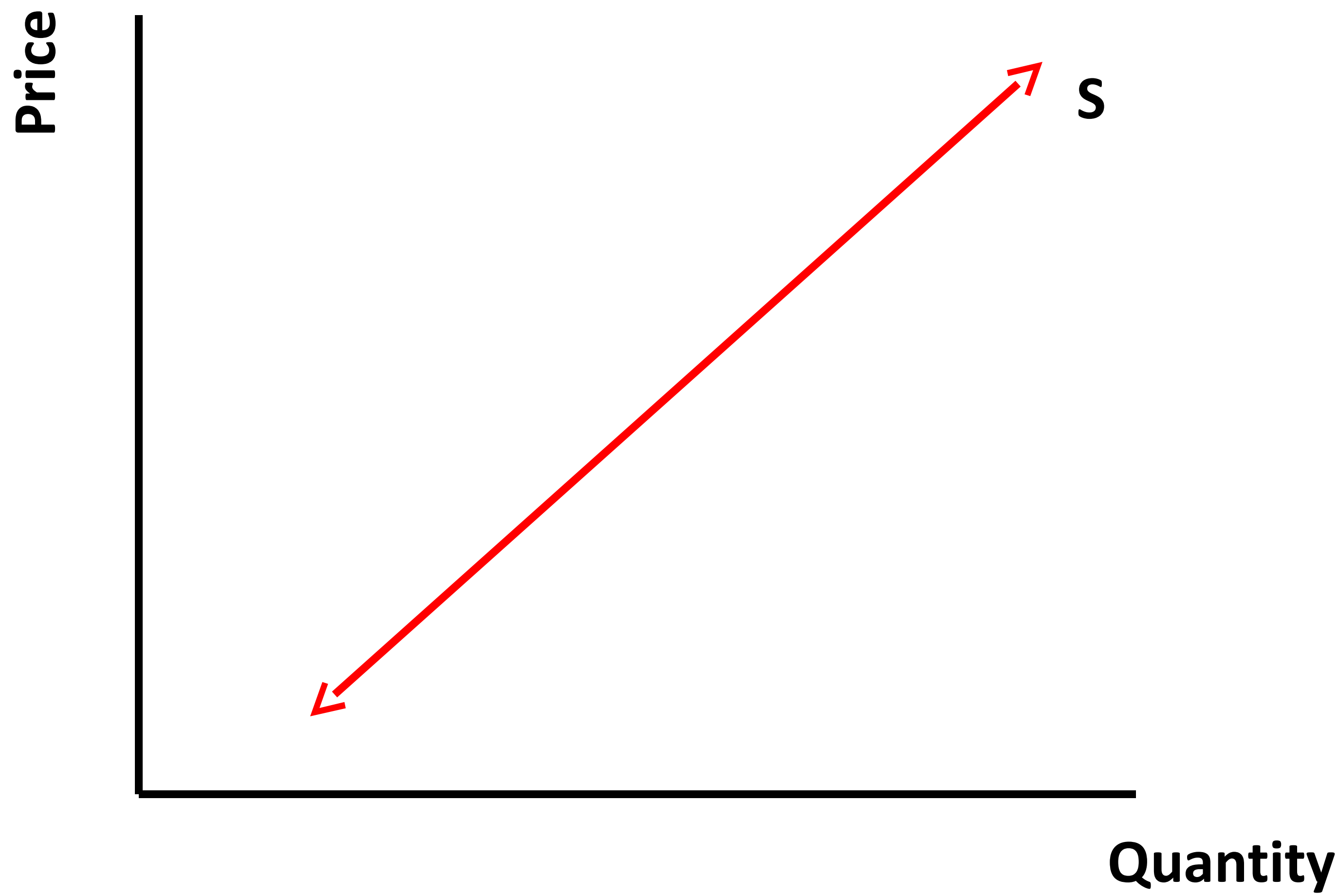
5. The price of plastic, a major input in boomerang production, increases.



6. Pago-Pagan workers are introduced to coffee as Pago-Paga become integrated into the world market and their productivity increases drastically.



7. Come up with your own story about boomerangs and the Pago-Pagans. Write down the story, draw the change in supply based on the story, and explain why supply changed.



Supply and Demand at Work

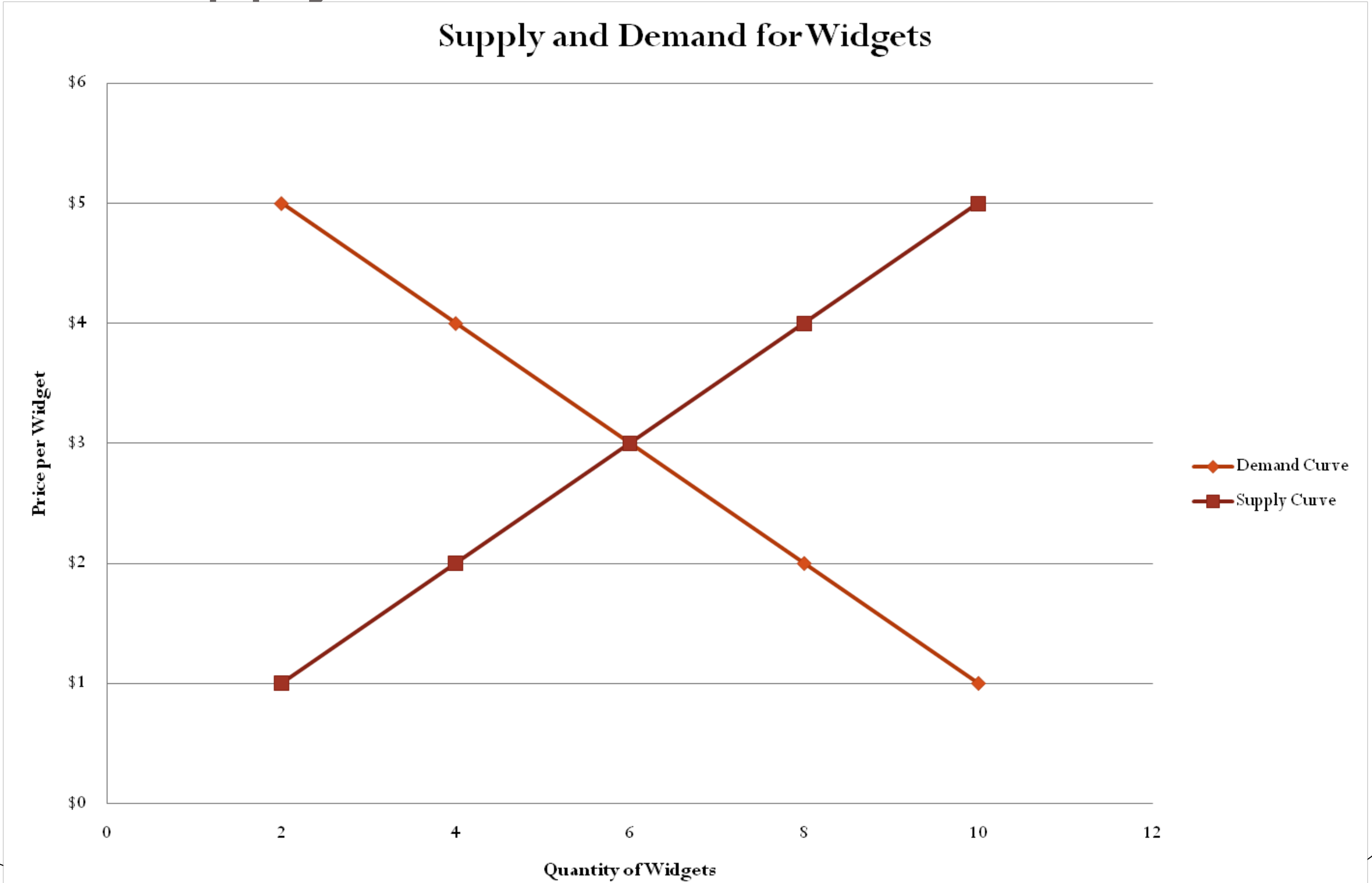
- Markets bring buyers and sellers together.
- The forces of supply and demand work together in markets to establish prices.
- In our economy, prices form the basis of economic decisions.

Supply and Demand at Work

- Supply and Demand Schedule can be combined into one chart.

Price per Widget ($)	Quantity Demanded of Widget per day	Quantity Supplied of Widget per day
$5	2	10
$4	4	8
$3	6	6
$2	8	4
$1	10	2

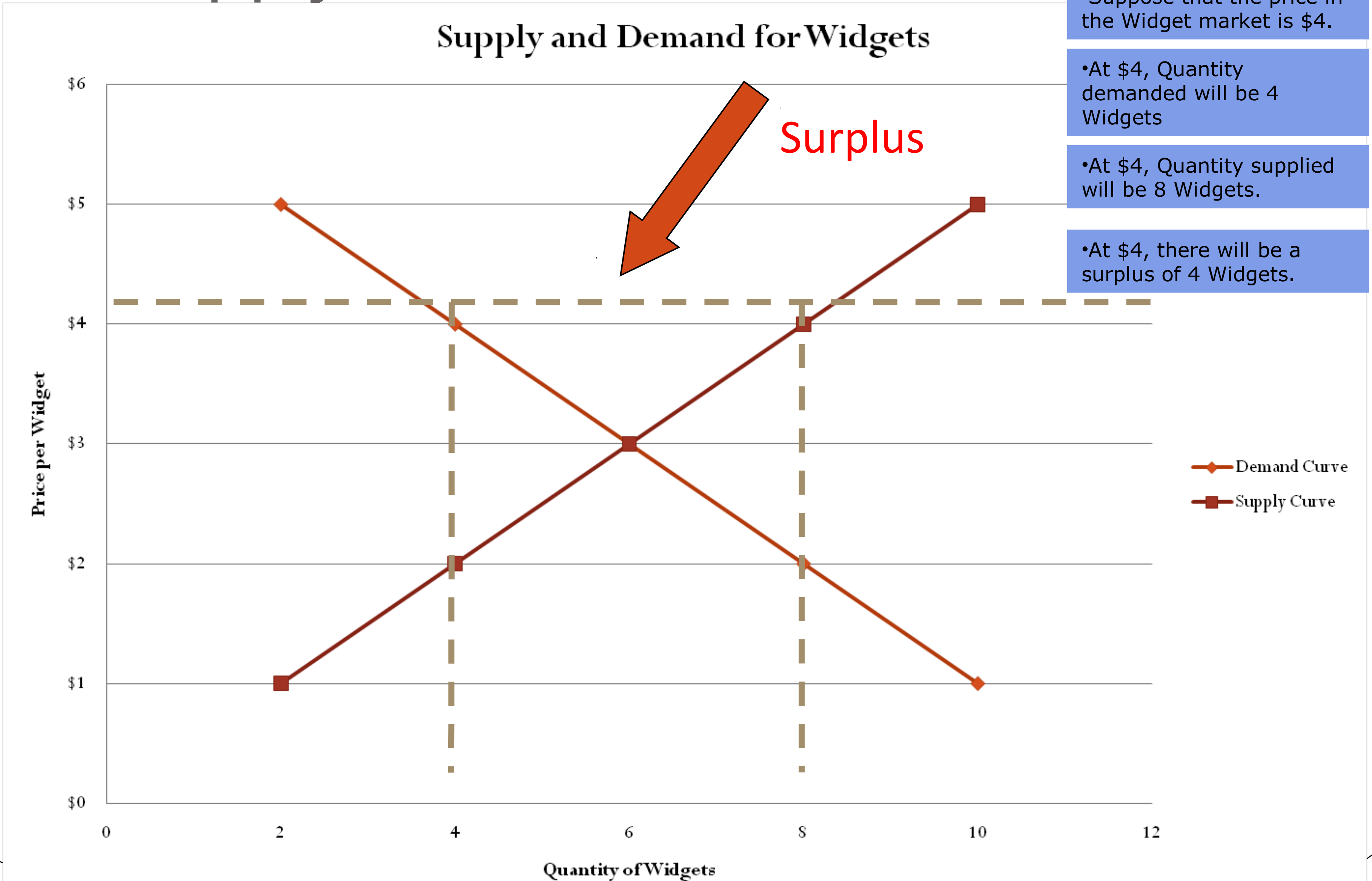
Supply and Demand at Work



Supply and Demand at Work

- A **surplus** is the amount by which the quantity supplied is higher than the quantity demanded.
  - A surplus signals that the price is too high.
  - At that price, consumers will not buy all of the product that suppliers are willing to supply.
  - In a competitive market, a surplus will not last. Sellers will lower their price to sell their goods.

Supply and Demand at Work



- Suppose that the price in the Widget market is $4.
- At $4, Quantity demanded will be 4 Widgets
- At $4, Quantity supplied will be 8 Widgets.
- At $4, there will be a surplus of 4 Widgets.

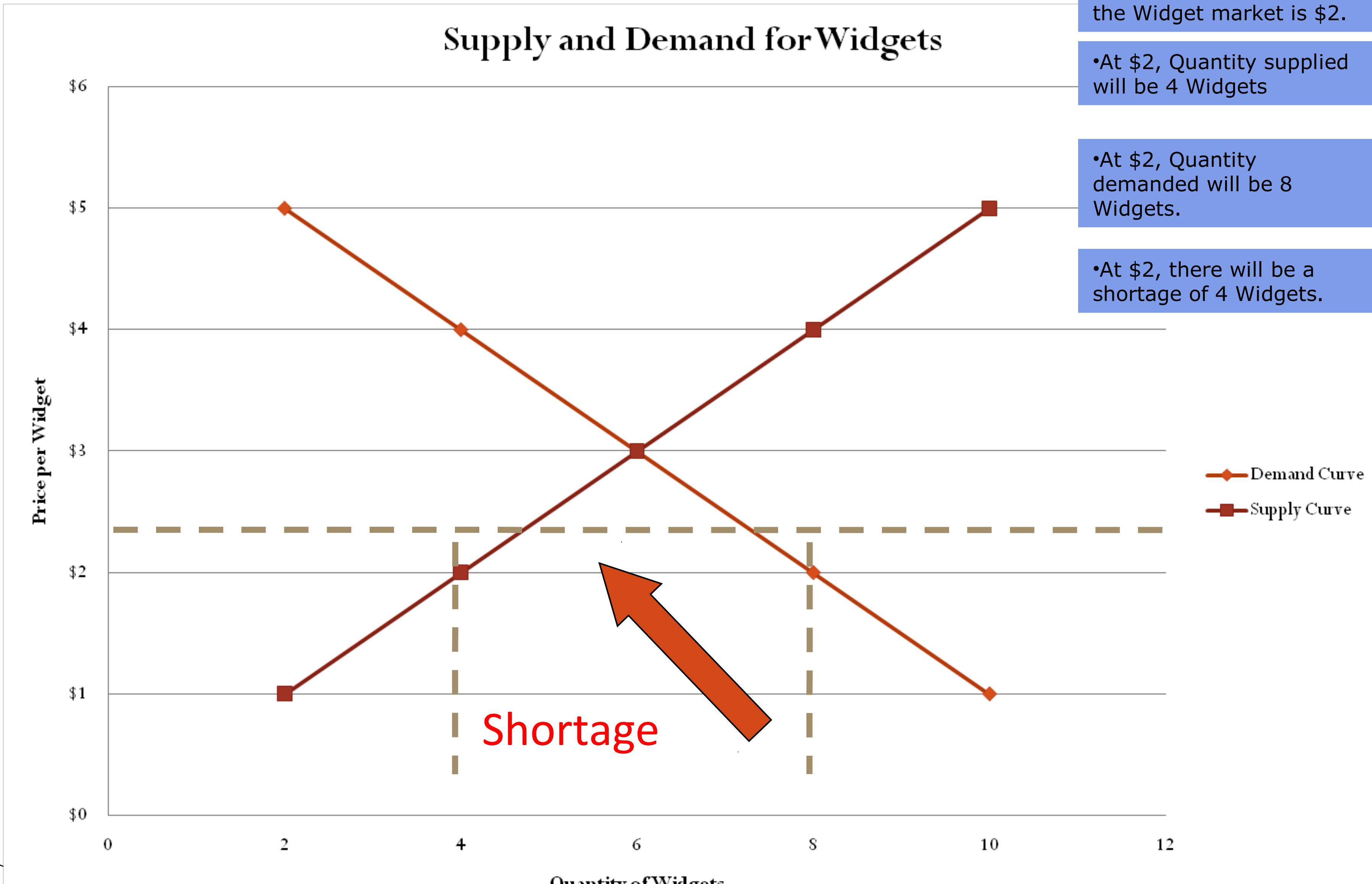
Supply and Demand at Work

- A **shortage** is the amount by which the quantity demanded is higher than the quantity supplied

  - A shortage signals that the price is too low.
  - At that price, suppliers will not supply all of the product that consumers are willing to buy.
  - In a competitive market, a shortage will not last. Sellers will raise their price.

Supply and Demand at Work

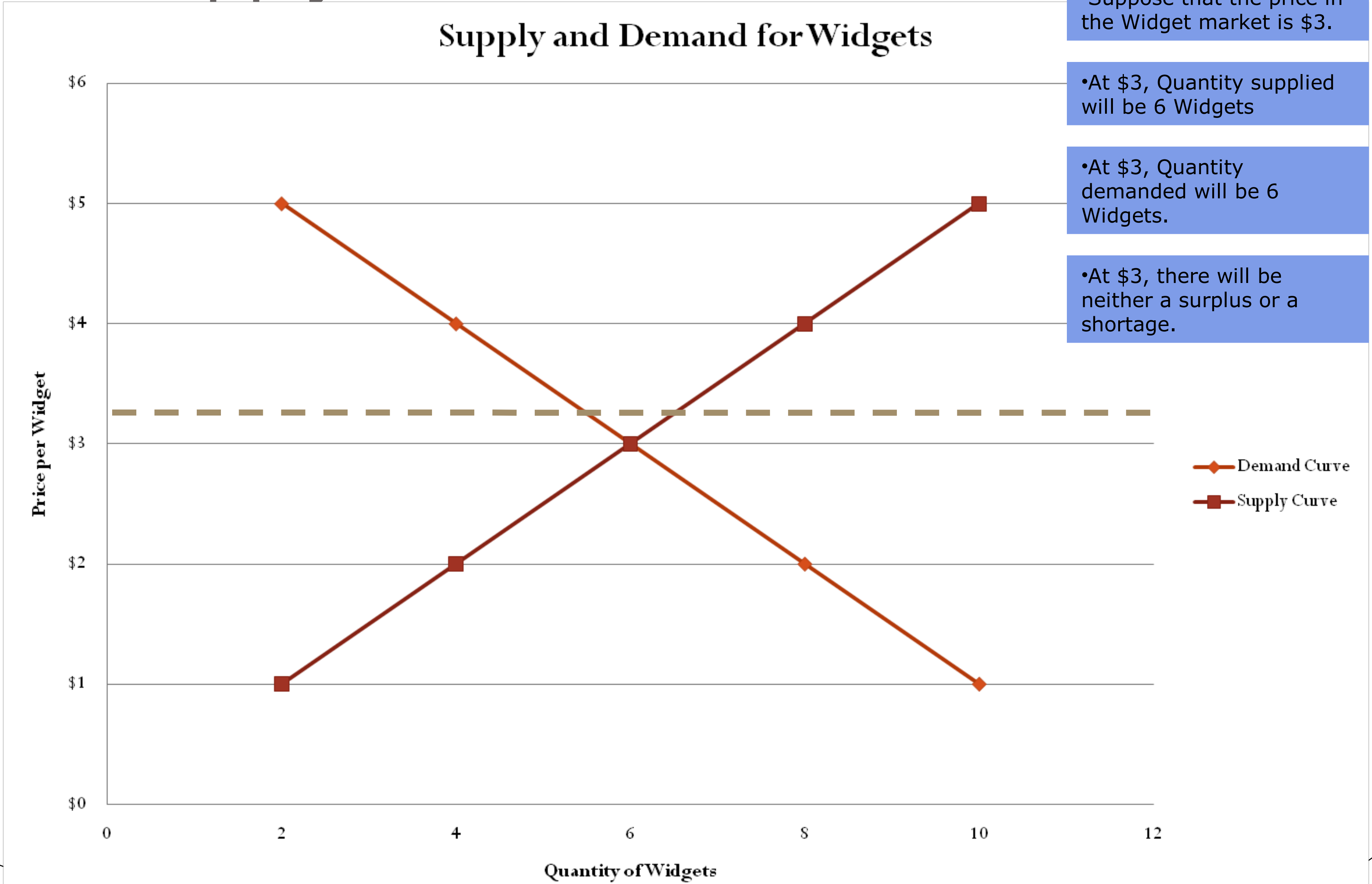
- •Suppose that the price in the Widget market is $2.
- •At $2, Quantity supplied will be 4 Widgets
- •At $2, Quantity demanded will be 8 Widgets.
- •At $2, there will be a shortage of 4 Widgets.



Supply and Demand at Work

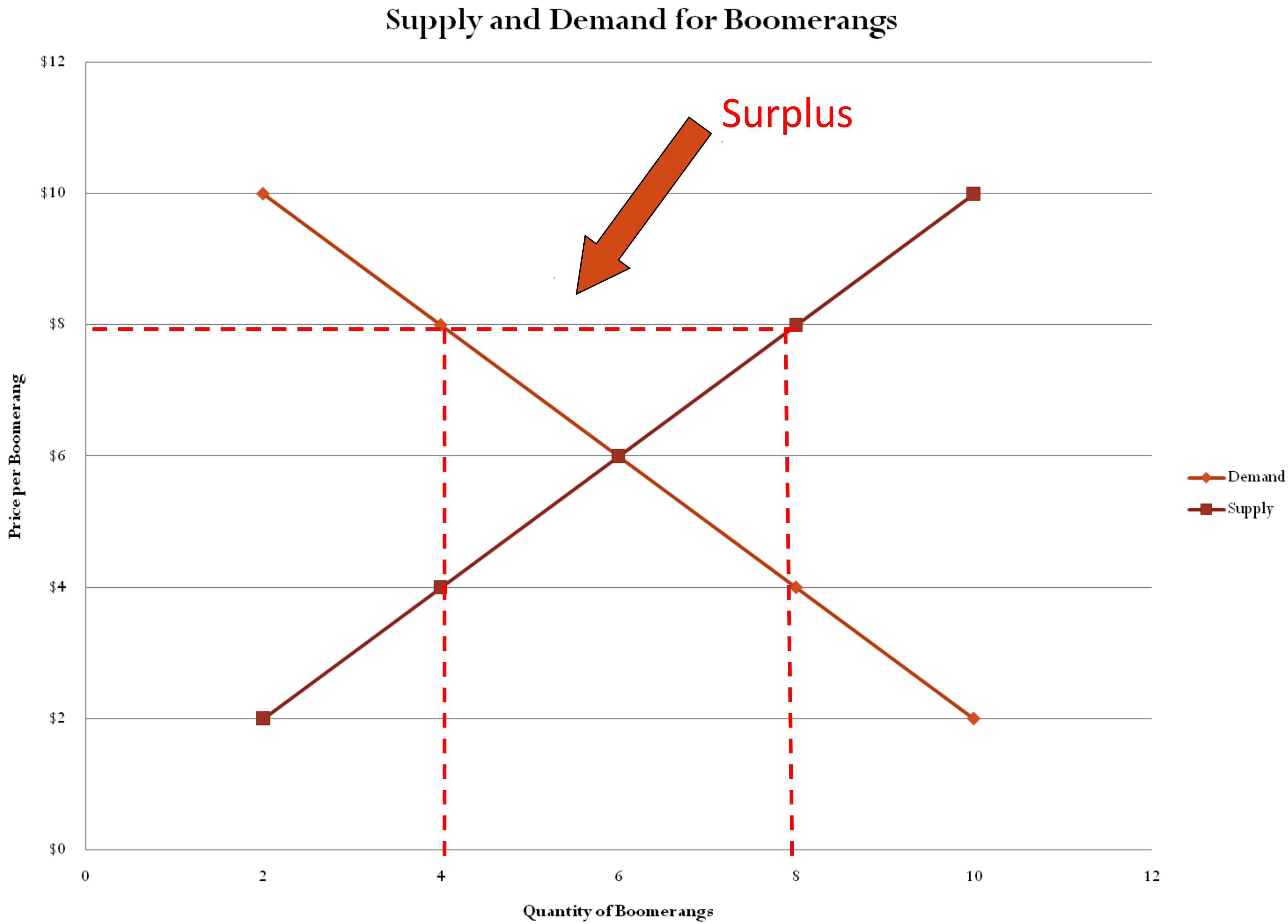
- When operating without restriction, our market economy eliminates shortages and surpluses.
  - Over time, a surplus forces the price down and a shortage forces the price up until supply and demand are balanced.
  - The point where they achieve balance is the **equilibrium price**. At this price, neither a surplus nor a shortage exists.
- Once the market price reaches equilibrium, it tends to stay there until either supply or demand changes.
  - When that happens, a temporary surplus or shortage occurs until the price adjusts to reach a new equilibrium price.

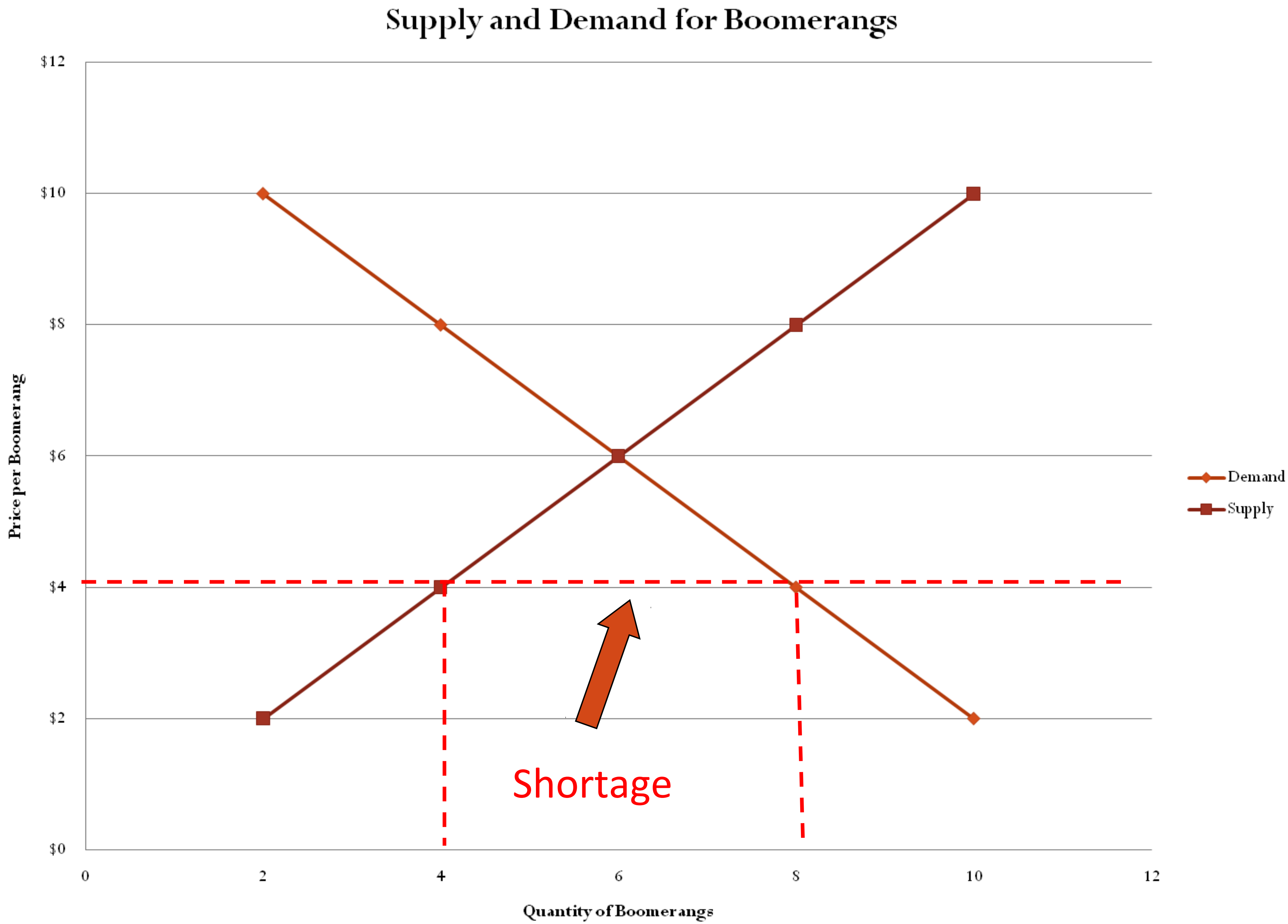
Supply and Demand at Work



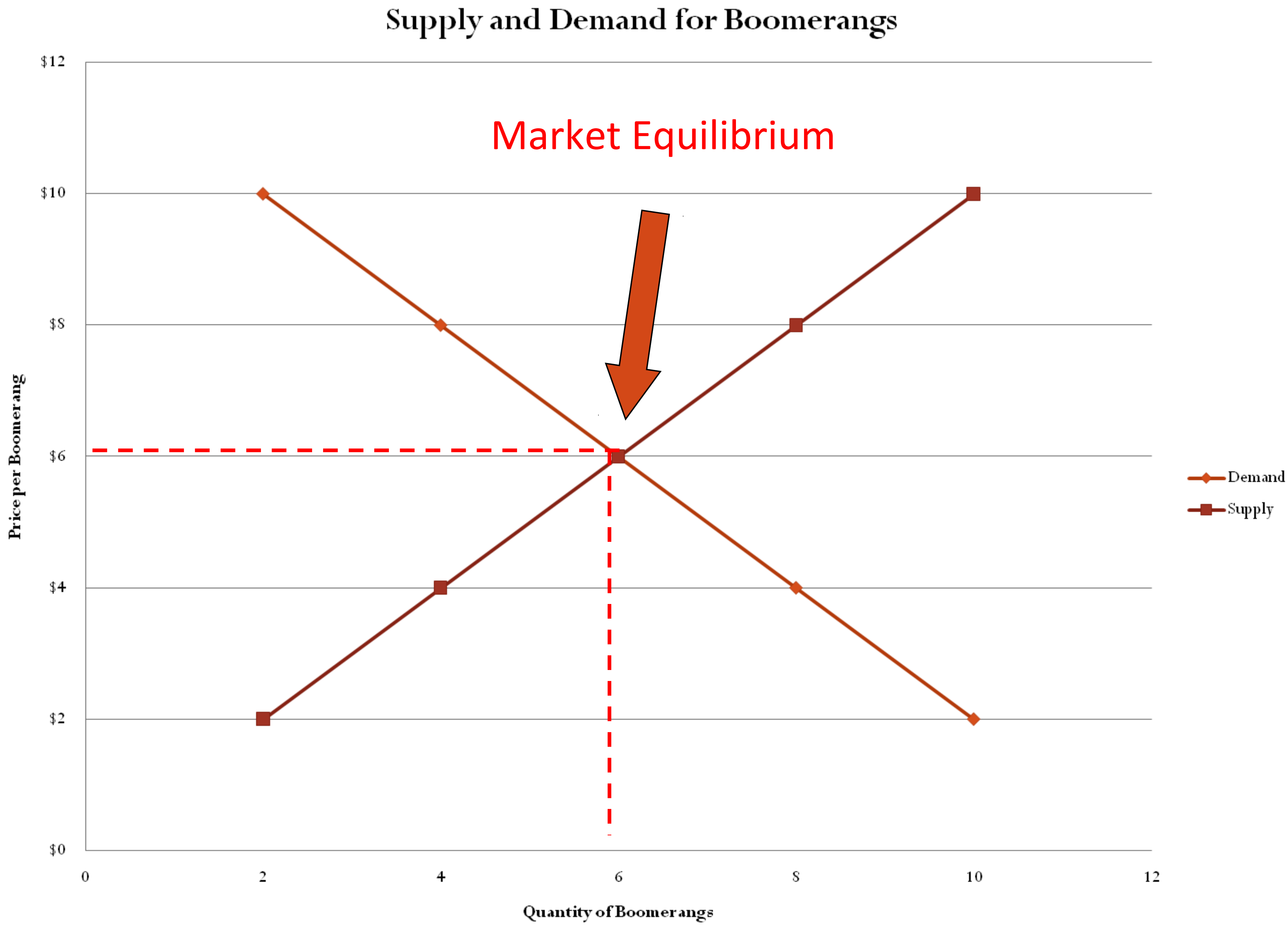
- Suppose that the price in the Widget market is $3.
- At $3, Quantity supplied will be 6 Widgets
- At $3, Quantity demanded will be 6 Widgets.
- At $3, there will be neither a surplus or a shortage.

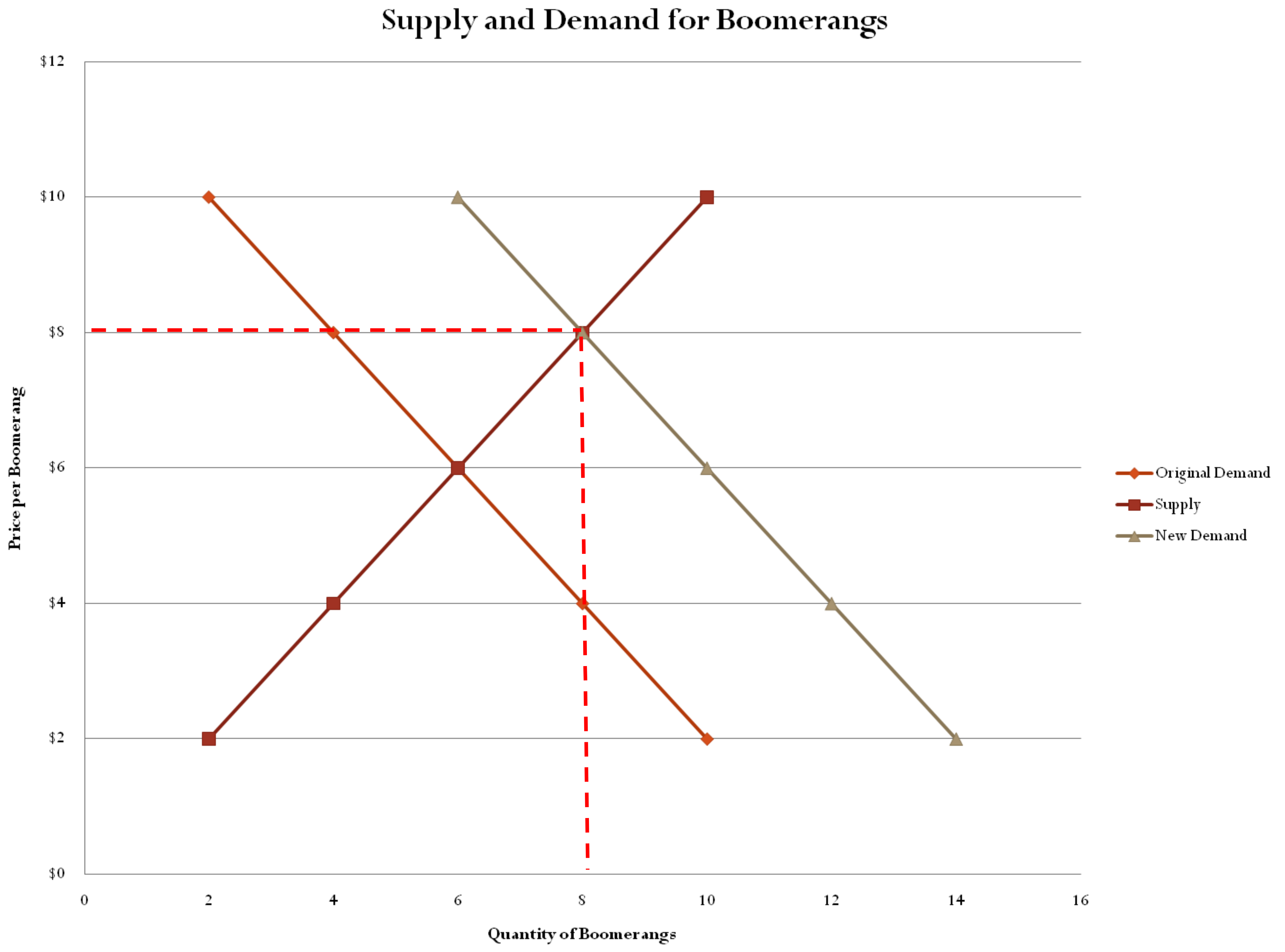
Supply and Demand Practice Answers


Supply and Demand for Boomerangs
Surplus
$12
$10
$8
$6
$4
$2
$0
Price per Boomerang
0
2
4
6
8
10
12
Quantity of Boomerangs
Demand
Supply



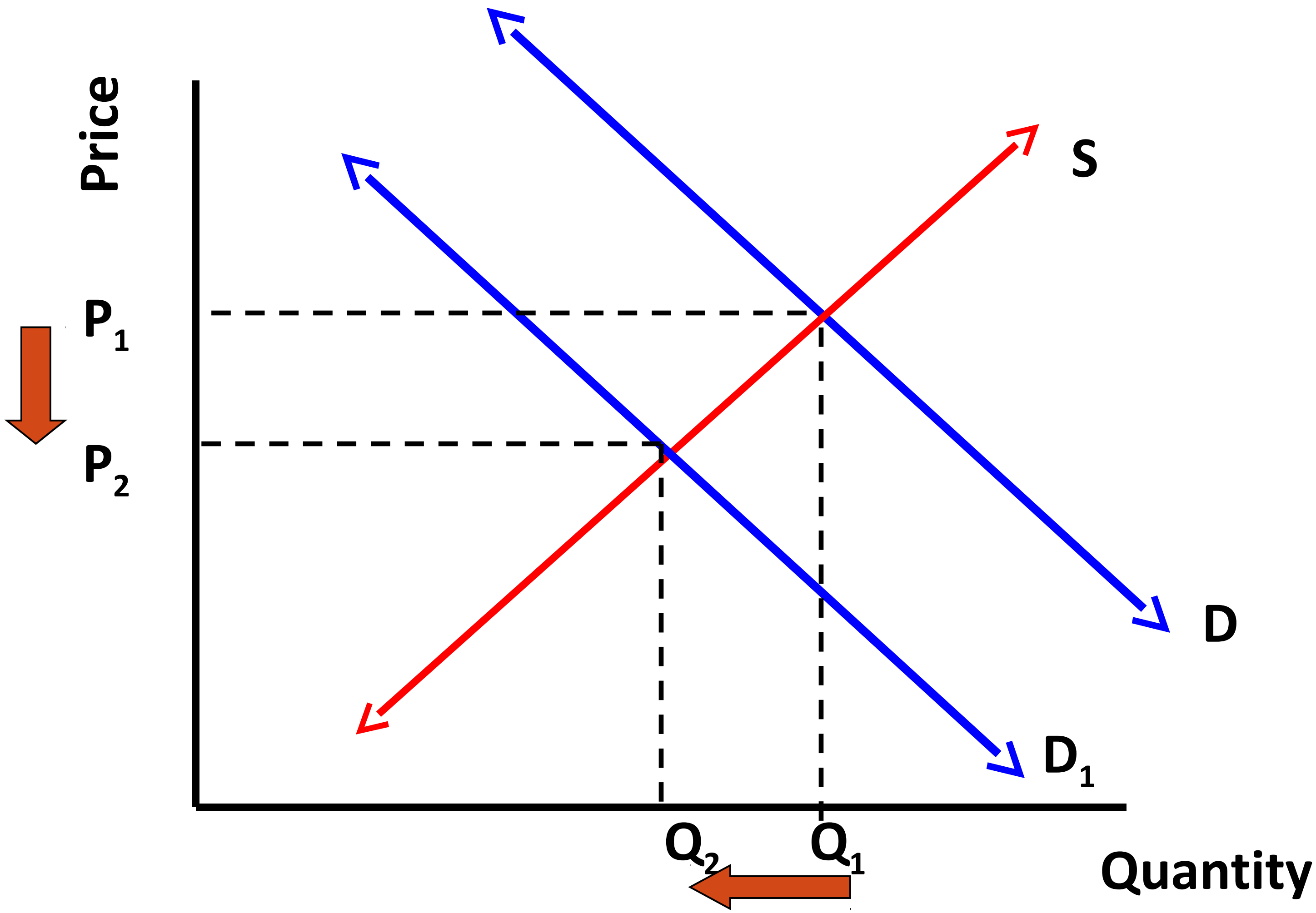
Supply and Demand for Boomerangs
$12
$10
$8
$6
$4
$2
$0
Price per Boomerang
0
2
4
6
8
10
12
Quantity of Boomerangs
Demand
Supply
Shortage


Supply and Demand for Boomerangs
Market Equilibrium
$12
$10
$8
$6
$4
$2
$0
Price per Boomerang
0
2
4
6
8
10
12
Quantity of Boomerangs
Demand
Supply

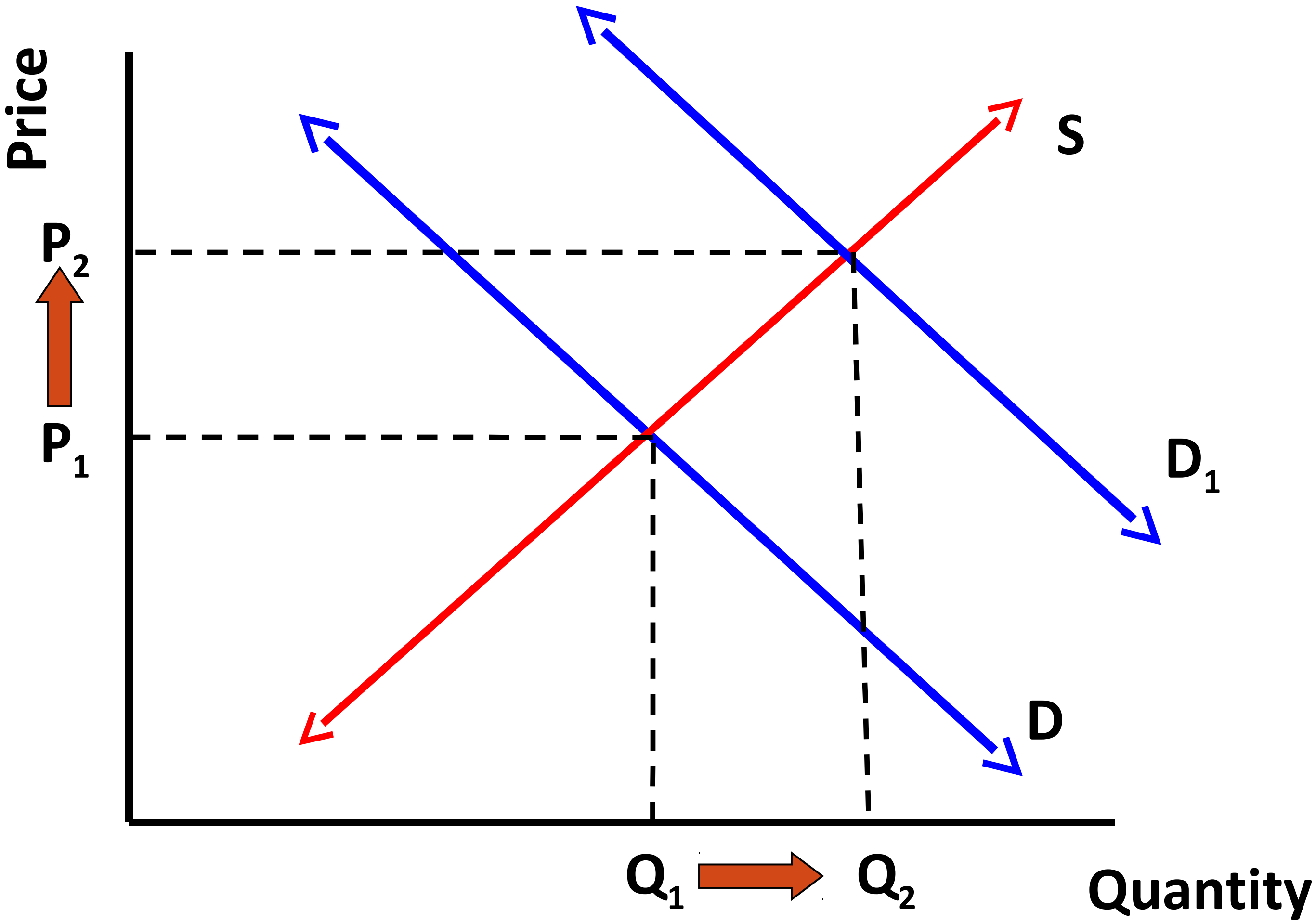


Supply and Demand for Boomerangs
$12
$10
$8
$6
$4
$2
$0
Price per Boomerang
0
2
4
6
8
10
12
14
16
Quantity of Boomerangs
Original Demand
Supply
New Demand

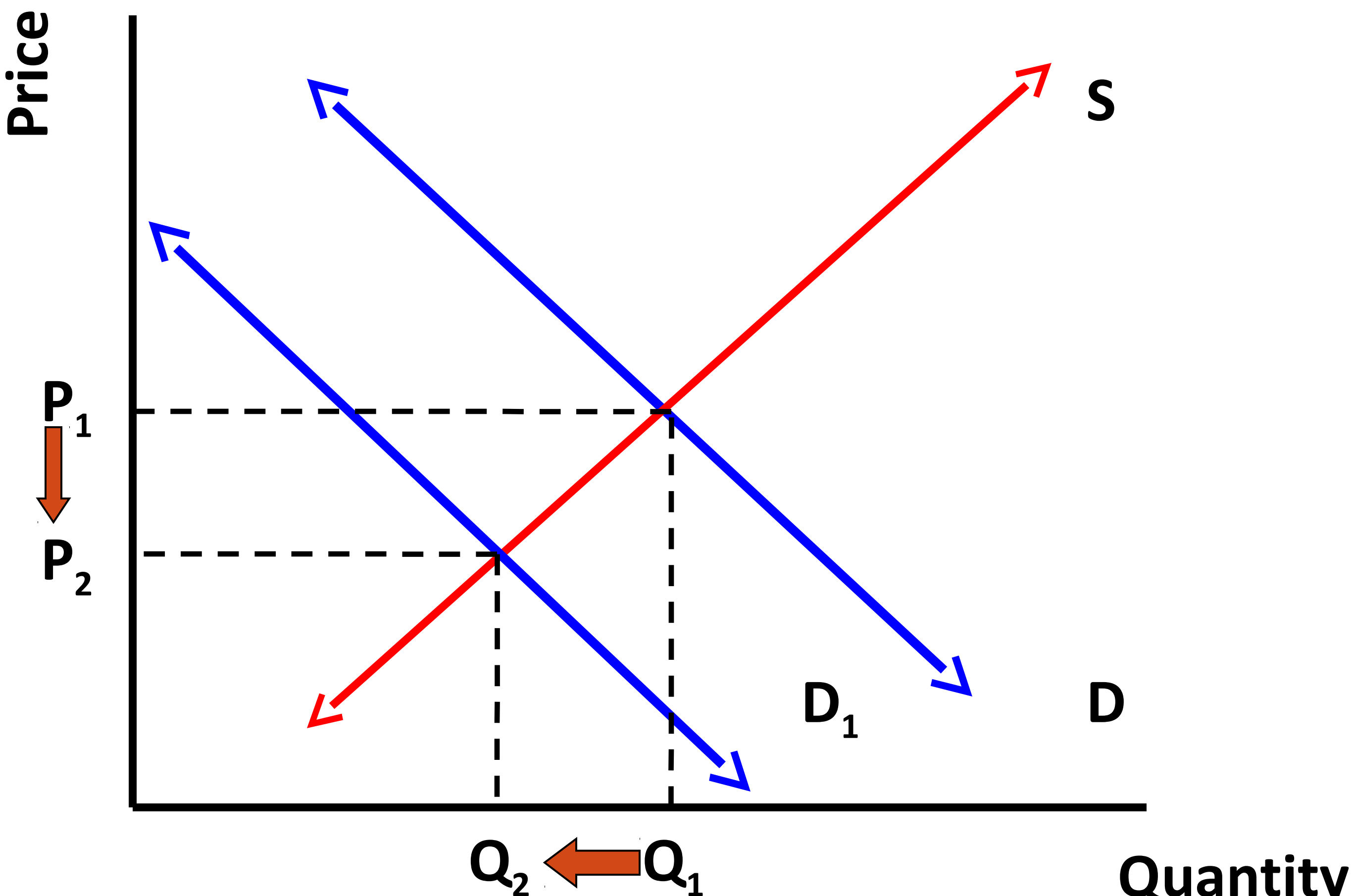
1. The income of the Chapel Hill townies declines after an early loss during March Madness.



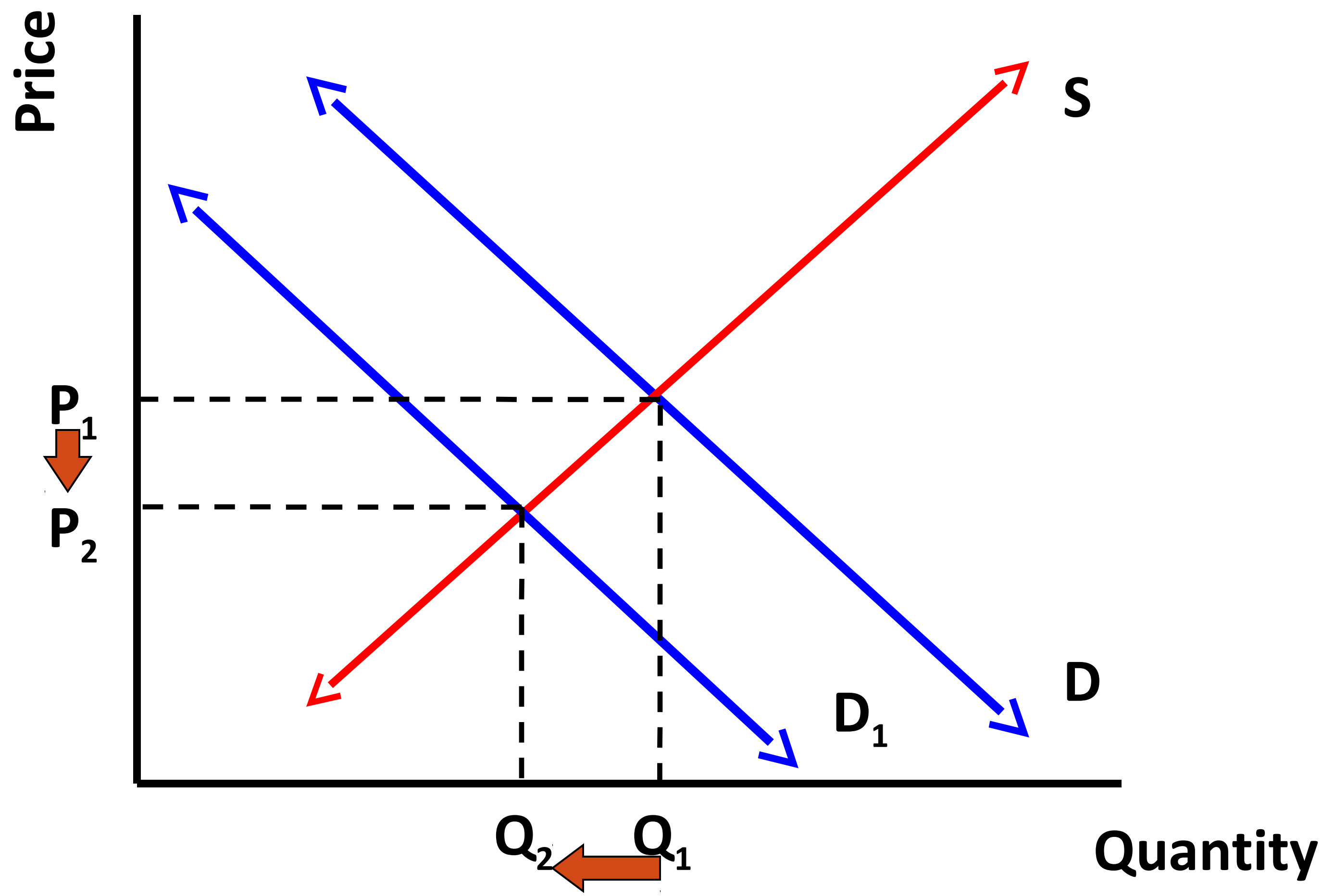
2. Chapel Hill is named one of the most beautiful towns in North Carolina and tourism doubles



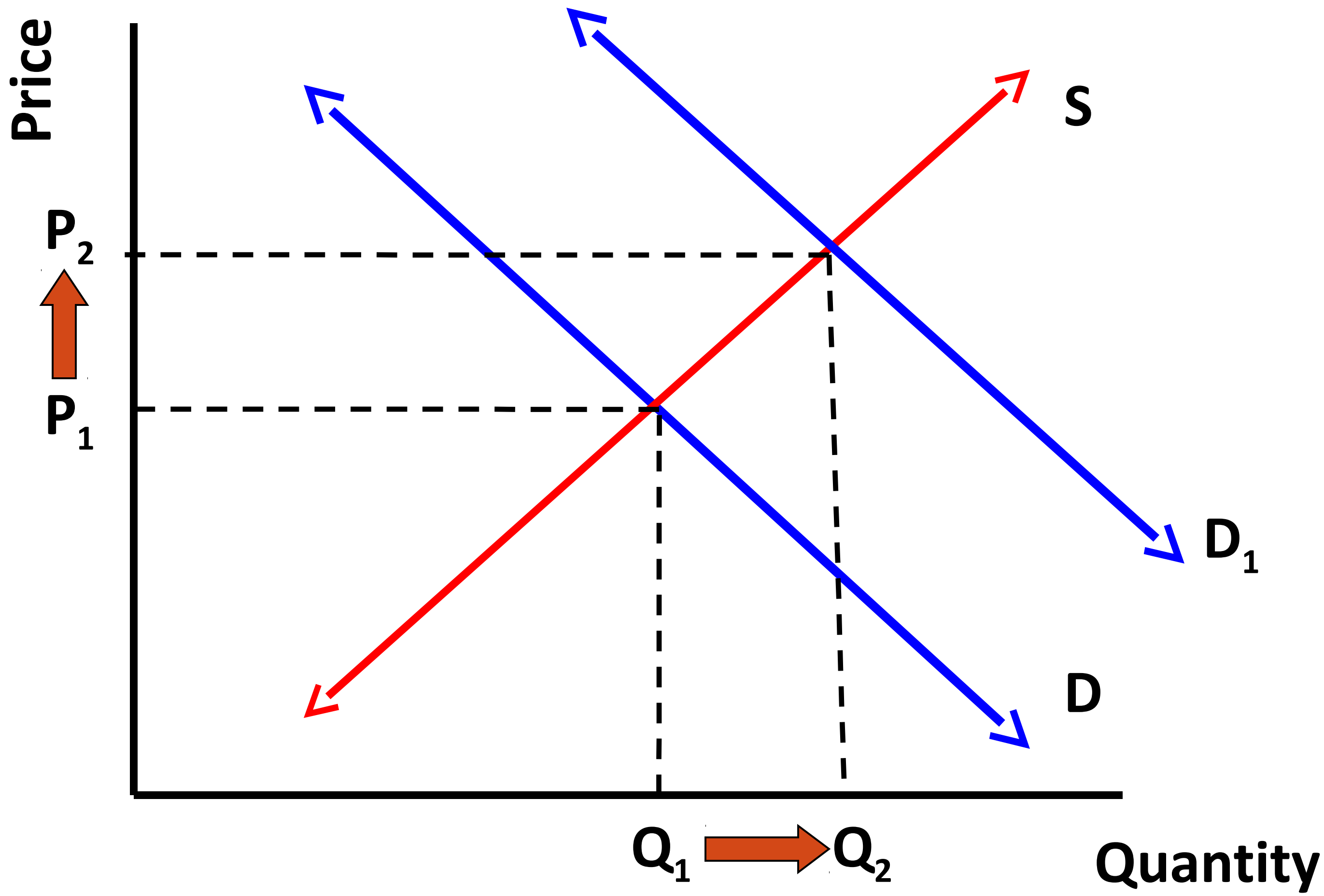
3. The price of blue ties decreases. (Blue ties are a <u>substitute</u> good for purple ties)



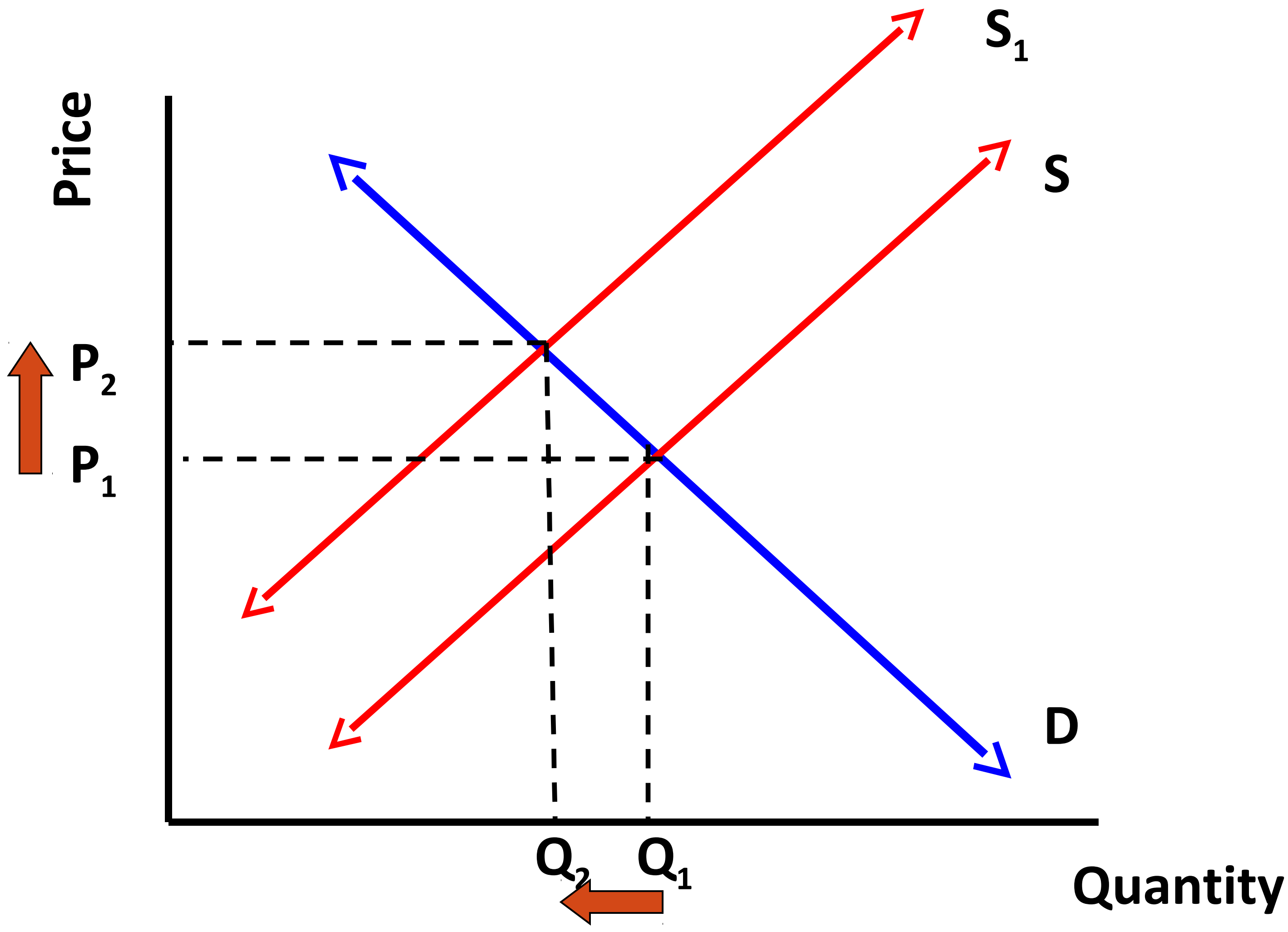
4. The Federal government has been warning the public about the possibility of a recession and job loss in the RDU area. (Think expectations!)



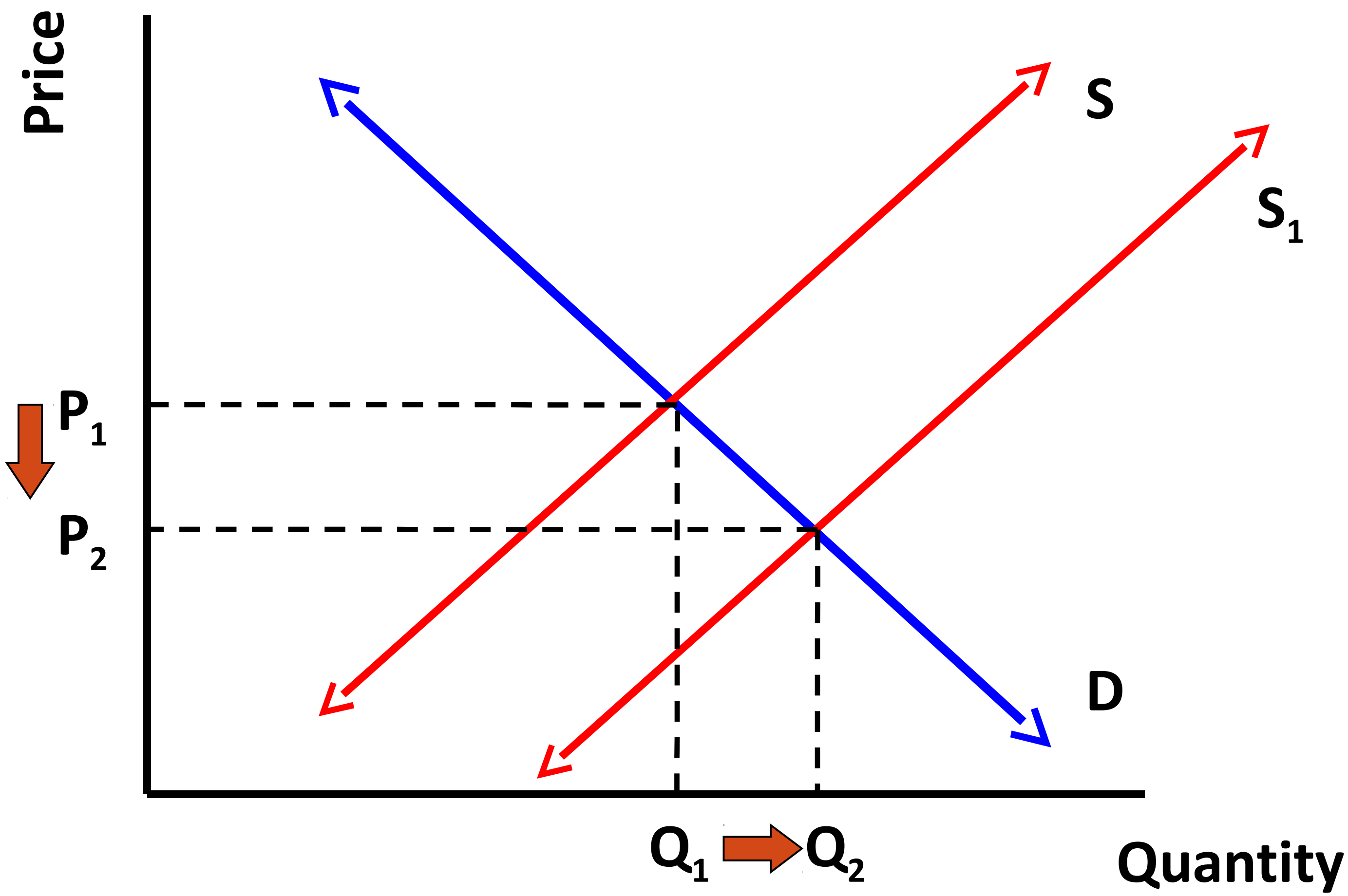
5. The price of purple striped shirts decreases (Purple striped shirts are a complement to purple ties)



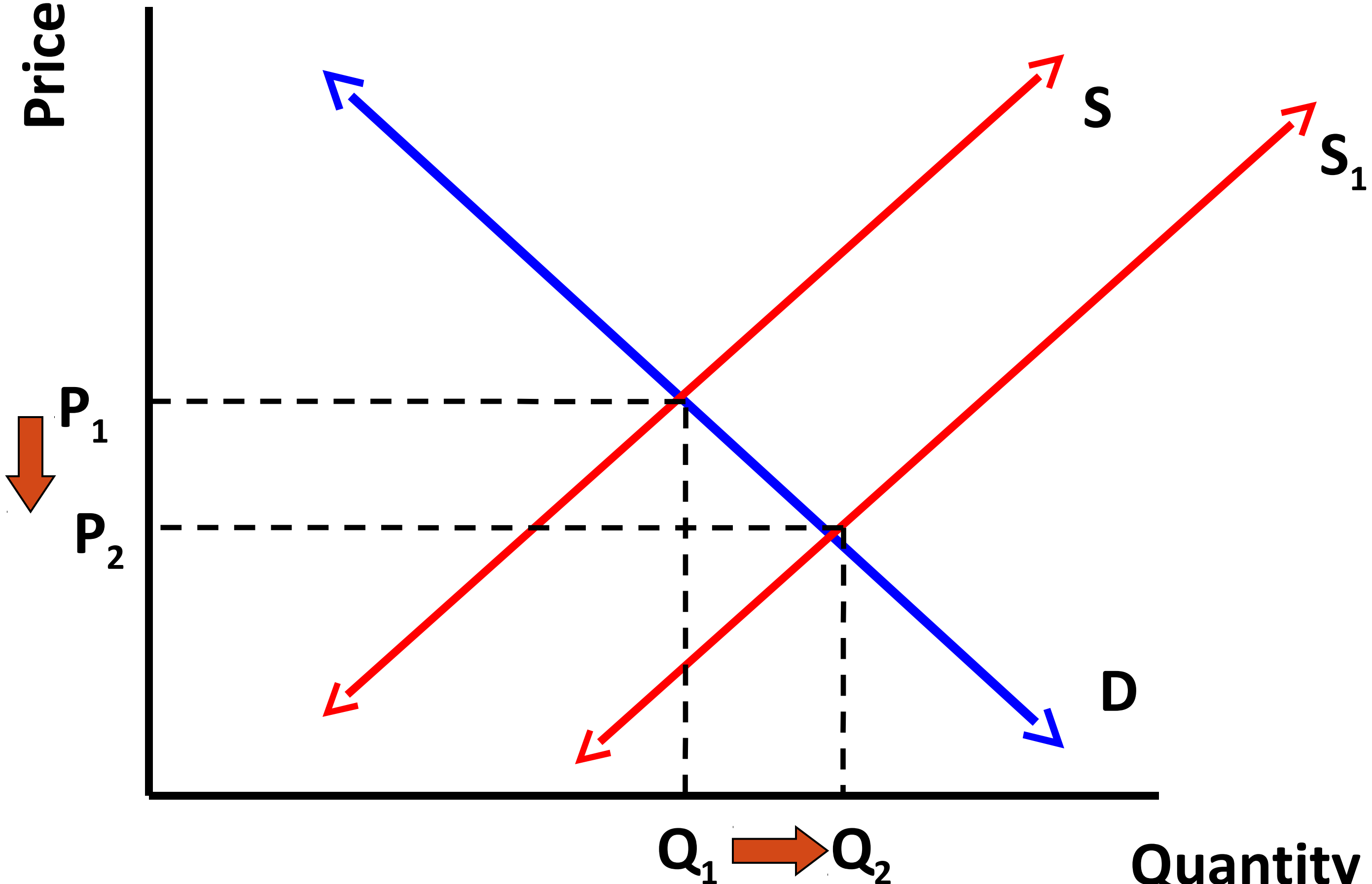
6. The price of silk increases (ties are made with silk).



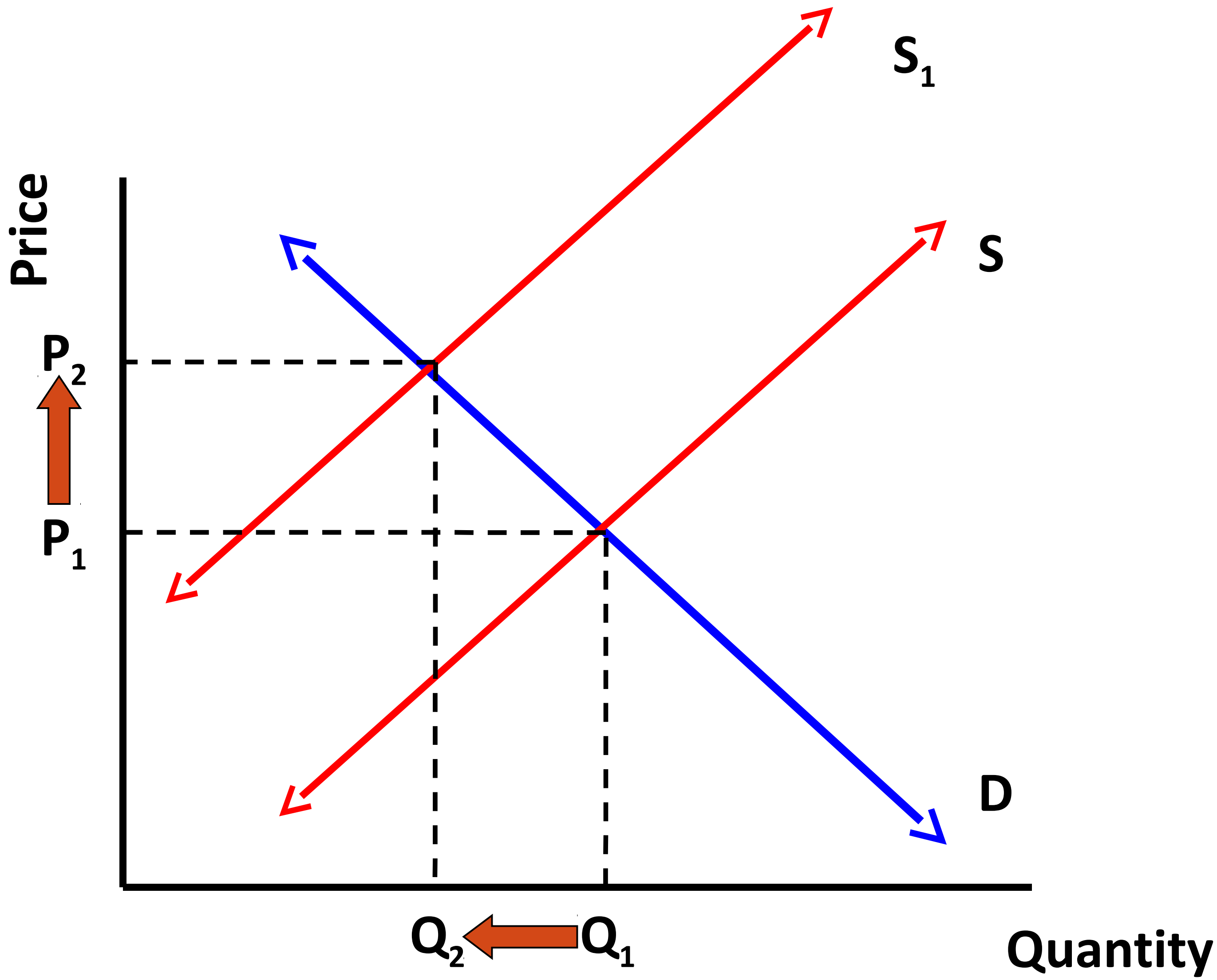
7. The government adds a subsidy to tie production.



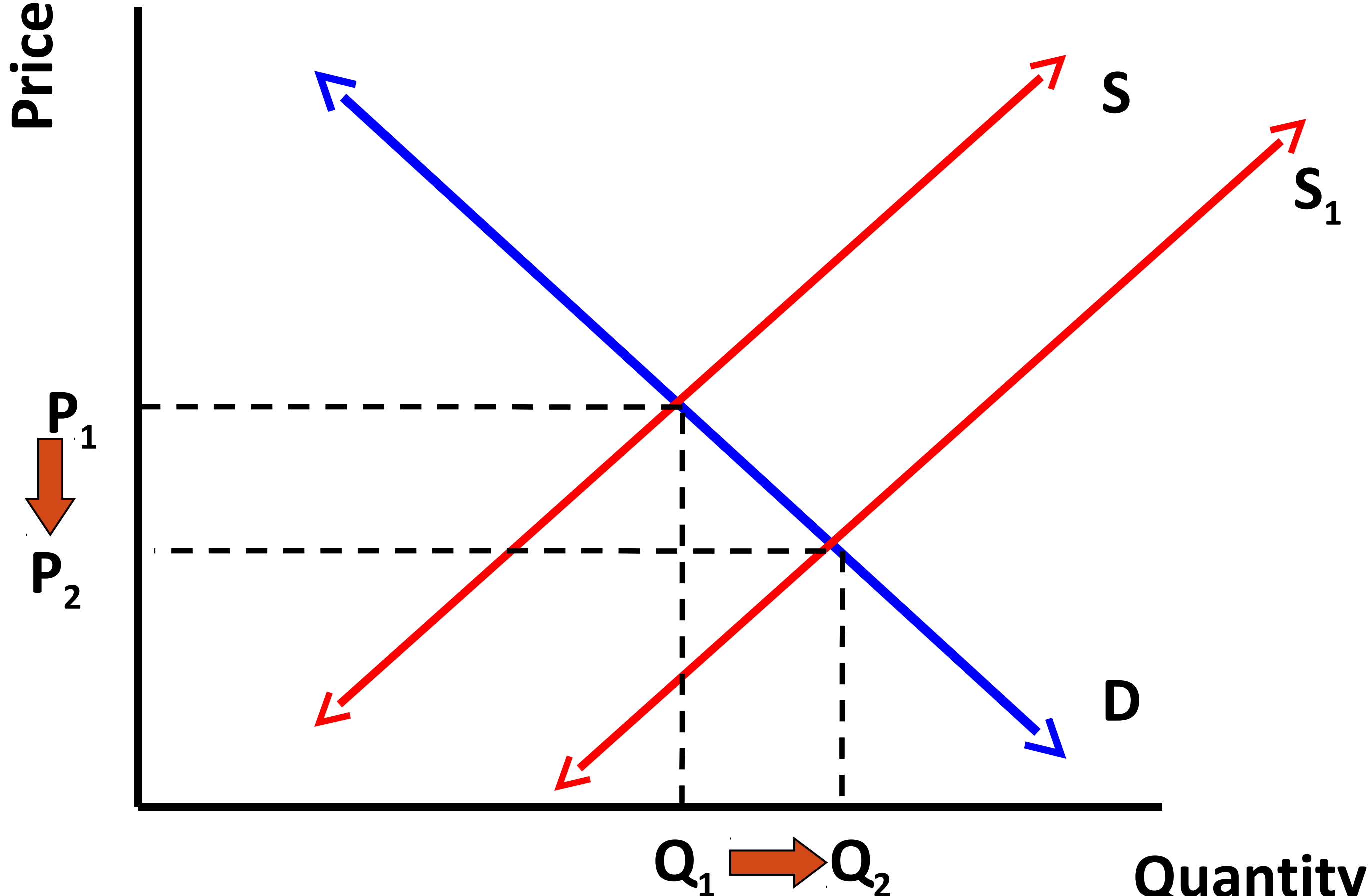
8. After the release of Alan Greenspan's first jazz flute album, purple tie producers are <u>expecting</u> a huge increase in demand and thus an increase in the price.



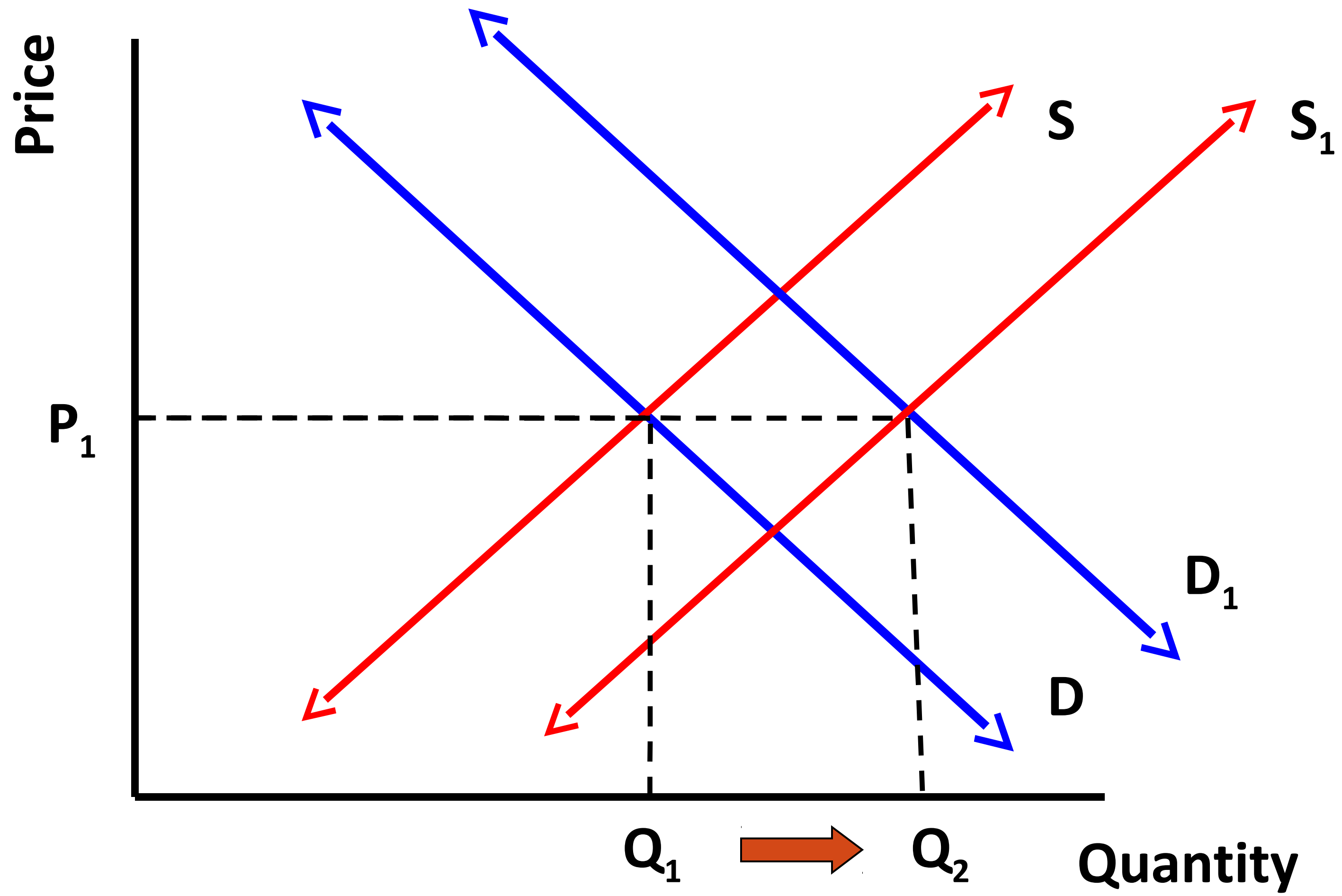
9. Congress enacts new tax on the production of purple ties.



10. As the popularity of purple ties sweeps the greater Orange County area, new producers enter the purple tie market.



11. Purple ties are named by GQ magazine as a "must have" for all young professionals. At the same time, a new textile machine decreases the cost of producing purple ties.



12. The price of pink ties (a related good that most purple tie producers also produce) rises as spring approaches. Tie consumers in Chapel Hill begin to expect purple ties to be put on sale since spring is coming, so they put off purchasing.