

CH 3 Sample Exam Problems and Answers

1. The most expensive private high schools in New York City cost close to \$60,000 a year to attend. That is MORE than it costs to attend some elite universities. What explains why the tuition is so high at these schools?

- A) There is extremely high demand.
- B) There is a limited supply of highly prestigious schools.
- C) The demand is low, but supply is large.
- D) The demand is quite high, and the supply is quite low.

2. Suppose that the price of Selena Gomez concerts increases from \$45 a ticket to \$80 a ticket. What will happen to the demand curve for her concerts?

- A) It shifts to the left.
- B) It shifts to the right.
- C) Its slope increases.
- D) Nothing would happen to the demand curve; only the quantity demanded would fall.

3. Cars and bicycles are substitutes. Which of the following is most likely to cause an increase in *demand for bicycles* (shift the curve to the right)?

- A) An increase in the price of cars.
- B) A decrease in the price of cars.
- C) A decrease in the cost of the brakes used in making bicycles.
- D) A decrease in the price of bicycles.

4. If the price of popcorn increases, what would you expect would happen to the market for popcorn?

- A) There would be an upward movement along the demand curve.
- B) There would be a downward movement along the demand curve.
- C) The demand curve would shift to the left.
- D) The demand curve would shift to the right.

5. Faux leather purses are considered inferior goods. What would happen to the equilibrium price and quantity of faux leather purses if income decreased and more firms started producing faux leather purses?

- A) The equilibrium price will go up and the equilibrium quantity will go down.
- B) The equilibrium price will go up and the equilibrium quantity will go up.
- C) The equilibrium price will go down and the equilibrium quantity will be indeterminant.
- D) The equilibrium price will be indeterminant and the equilibrium quantity will go up.
- E) The equilibrium price will go up and the equilibrium quantity will be indeterminant.

6. Consider a market in which the market demand is given by the equation $Q_D = 44 - 3P$ and market supply is given by the equation $Q_S = 2P + 4$. If the price in the market is \$10, there is _____ in the market.

- A) an equilibrium quantity of 24
- B) an equilibrium quantity of 14
- C) a surplus of 10
- D) a shortage of 14
- E) a shortage of 24

7. The latest attendance figures at a theme park reveal that visitor numbers increased at the same time as the average ticket price went up. How could this have possibly happened?

- A) There was an increase in demand and no change in supply.
- B) There was a decrease in demand and an increase in supply.
- C) There was no change in demand and an increase in supply.
- D) There was a decrease in demand and no change in supply.
- E) This violates the law of demand. The number of visitors should fall when ticket prices rise.

8. Consider a demand curve for ground beef. We move *along* the demand curve when

- A) the price of hamburger buns increases
- B) when a news report comes out saying that ground beef cures cancer
- C) the price of ground beef changes
- D) the price of ground turkey decreases

9. Consider a demand curve for tortilla chips. If the price of salsa decreases while the price of tortilla chips stays the same, then I would consume more tortilla chips because.

- A) salsa is an inferior good
- B) salsa is a normal good
- C) tortilla chips and salsa are complements
- D) tortilla chips and salsa are substitutes

10. Which of the following is most likely to shift the demand curve for a good to the right (outward)?

- A) A decrease in the cost of production of the good
- B) The introduction of a new technology that lowers the cost of producing the good.
- C) A decrease in the price of the good
- D) An increase in the price of a substitute good
- E) An increase in the price of a complement good

11. Which of the following is most likely to increase the equilibrium price charged and increase the equilibrium quantity of customers at Dunkin Donuts?

- A) An increase in prices at Starbucks, a competitor one block away.
- B) A new technology that makes it cheaper to mass-produce donuts.
- C) An increase in the rent paid by Dunkin Donuts.
- D) Starbucks decides to renovate, expand and offer a better experience at lower prices.

12. Which of the following would cause an increase in the price of gasoline and an expansion in the equilibrium quantity?

- A) an increase in the price of crude oil, a key ingredient required for the production of gasoline
- B) the introduction of a miracle engine that substantially improves the gas mileage of automobiles
- C) a recession that substantially reduces the income of households
- D) an increase in the popularity and use of Sport Utility Vehicles that consume a lot of gasoline per mile driven

13. If the cost of the components used to make the PS4 suddenly increases, what will happen to the demand curve for PS4's?

- A) shifts to the left
- B) it becomes upward sloping
- C) shifts to the right
- D) nothing happens to the demand for the PS4.

14. If there is a shortage of a good at the current price, we expect that

- A) the supply curve for the good will shift to the left.
- B) the demand curve for the good will shift to the right.
- C) the price of the good will rise.
- D) the price of the good will fall.
- E) the price of the good will stay the same.

15. If we define an equation for demand, $Q_d = 240 - 12P$ and a equation for supply, $Q_s = 60 + 6P$. Determine the equilibrium price and output in the market.

Answer: $240 - 12P = 60 + 6P$ so $180 = 18P$ and $P = 10$

Double checking by plugging P-10 into Q_d and Q_s :

$240 - (12 * 10) = 120$ and $60 + (6 * 10) = 120$

16. The market for Snickers has a demand function, $Q_d = 10 - 7P$ and supply function, $Q_s = -1 + 4P$. Determine the equilibrium price and quantity sold in this market.

Answer: $P=1$ and $Q=3$

17. Match the statements on the left with the correct answer on the right by drawing a line between them:

Match These

- A. The price increases
- B. Cowboy boots are the in thing
- C. A new technology is developed
- D. The cost of labor rises

With These

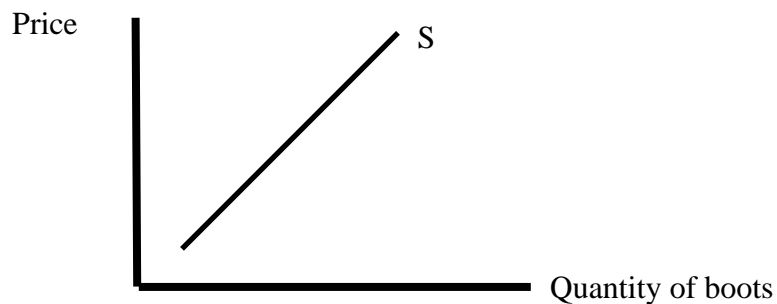
- 1. The supply curve shifts out
- 2. Slide along the demand curve
- 3. The supply curve shifts in
- 4. The demand curve shifts out

Answer: $A \rightarrow 2$, $B \rightarrow 4$, $C \rightarrow 1$, $D \rightarrow 3$

18. Which of these is ENDOGENOUS in the supply and demand model?

- A) income
- B) the price of related goods
- C) price

19. On the following graph show (either by drawing an arrow along the existing supply curve or drawing a new supply curve) how an increase in the price of gasoline affects the current supply of boots.



Answer: An increase price of gasoline (an input used to deliver boots to market) shifts the supply curve to the left.

20. The following picture shows a case of Bud Light with ping pong balls being sold nearby. If the price of Bud Light rises, what will happen to the demand for ping pong balls?



- A) the demand for ping pong balls will increase
- B) the demand for ping pong balls will decrease**
- C) the demand for ping pong balls will increase on hot days
- D) the demand for ping pong balls will decrease because you don't have any paddles to use.
- E) nothing happens to the demand for ping pong balls

21. Due to new regulations an oil company is forced to meet stricter refining standards. How will these regulations change the market price and quantity?

- A) The price will rise and the quantity will fall.**
- B) The price will fall and the quantity will rise.
- C) The price and quantity will both rise.
- D) The price and quantity will both fall.
- E) The price will rise, and the quantity will be indeterminate.

22. What would happen to the price and quantity sold of Dr. Pepper (a normal good) if income decreased?

- A) Equilibrium price will go up and equilibrium quantity will go down.
- B) Equilibrium price will go up and equilibrium quantity will go up.
- C) Equilibrium price will go down and equilibrium quantity will go down.**
- D) Equilibrium price will go down and equilibrium quantity will go up.

23. In the supply and demand model which of the following is an endogenous factor?

- A) Quantity**
- B) The price of related goods
- C) Income
- D) Technology

24. Match the statements on the left with the correct answer on the right by drawing a line between them:

Match These

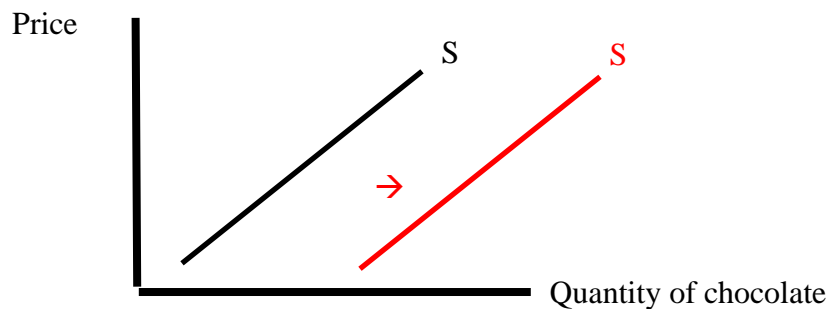
- A. The price decreases
- B. The price of a complement falls
- C. A firm receives a subsidy
- D. The cost of labor rises

With These

- 1. The supply curve shifts in
- 2. Slide along the demand curve
- 3. The demand curve shifts out
- 4. The supply curve shifts out

Answer: A→2, B→3, C→4, D→1

25. On the following graph show (either by drawing an arrow along the existing supply curve or drawing a new supply curve) how a decrease in the price of cacao (an ingredient used in making chocolate) affects the current supply of chocolate.



Answer: A decrease in the price of cacao shifts the supply curve of chocolate to the right.

26. Answer the following questions about a market that is perfectly competitive:

- A) If the price is above the equilibrium price, would there be a shortage or a surplus?
- B) What will happen if the price is below the equilibrium price?
- C) During a shortage, how does the market respond until it once again reaches equilibrium?

Answers:

- A) If the price is above the equilibrium price there would be a surplus, because at prices above the equilibrium price there is more quantity supplied than demanded.
- B) If the price is below the equilibrium price there would be a shortage, because at prices below the equilibrium price there is more quantity demanded than supplied.
- C) A shortage in the market means that more quantity is demanded than is being supplied. This causes upward pressure on price because there are consumers who are willing to pay a higher price. To meet this demand, additional firms that are

willing to supply the good at a higher price will enter the market. This cycle will continue until the equilibrium price is reached.

27. If the U.S. government enacts a new tariff (a tax) on the tortillas imported from Mexico, what will happen to the price of tortillas made in the United States?

A) The price of tortillas made in the U.S. will rise.

B) The price of tortillas made in the U.S. will fall.

C) The price of tortillas made in the U.S. will not change.

D) The price of tortillas made in the U.S. will fall if the economy is in a recession but rise if the economy is in an expansion.

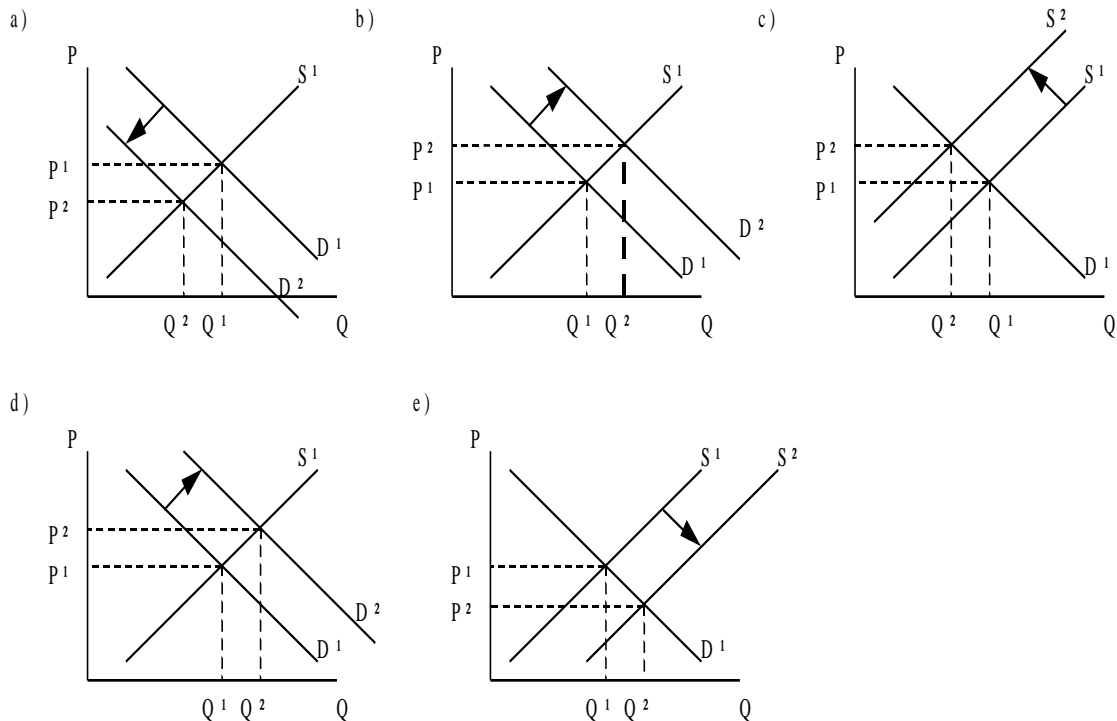
28. Using a supply and demand model, show what happens to the equilibrium price and equilibrium quantity in the market for bananas if, holding all else constant, a study comes out that says eating bananas causes cardiac problems.

The demand curve would decrease (shift inward), the price would decline, and quantity would decline.

29. For each of the following, draw a diagram that illustrates the likely effect on the market for eggs. Indicate in each case the impact on equilibrium price and equilibrium quantity.

- a. A surgeon general warning that high-cholesterol foods can cause heart attacks.
- b. A decrease in the price of bacon, a complementary product.
- c. An increase in the price of chicken feed.
- d. Caesar salad becomes popular at dinner parties. (The dressing is made with raw eggs.)
- e. A technological innovation that reduces egg breakage during packing.

The following graphs illustrate each case. Comments follow below.

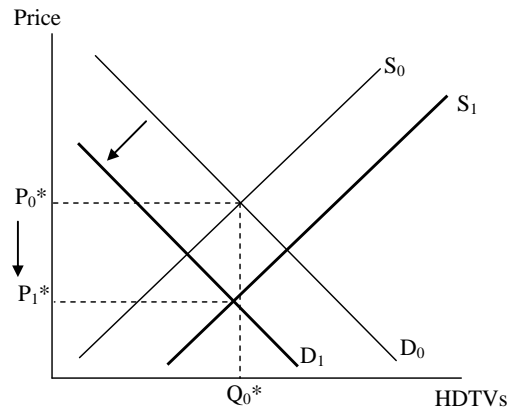


- a. The risk of heart attack will cause a change in preferences. Demand will go down. This will cause a decrease in quantity as well as a decrease in price.
- b. A decrease in the price of a complementary good will cause an increase in demand. This causes an increase in price and quantity.
- c. The increase in the price of chicken feed will constitute an increase in the cost of inputs on the supply side. This will cause a decrease in supply, which in turn causes higher prices and lower quantity.
- d. This is a change in preferences which increases demand for eggs. Price and quantity will rise.
- e. This technological innovation will cause an increase in supply. In this case, there will be an increase in supply and lower prices.

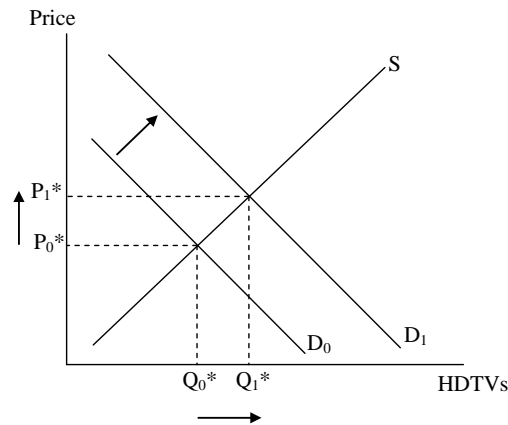
30. Consider the market for high-definition televisions (HDTVs).

- a. **Scenario 1:** Using a supply and demand graph, show what will happen to the current equilibrium price and quantity of HDTVs if people expect the price of HDTVs to fall in the future.
- b. **Scenario 2:** Now, using a second supply and demand graph, show instead what will happen to the equilibrium price and quantity of HDTVs if the price of streaming services declines.
- c. **Scenario 3:** You observe that the price of HDTVs increases. Can you definitively conclude that there has been an increase in demand? If not, what besides an increase in demand could explain the price increase?

- a. See below. Demand will decrease because consumers will want to wait until the price drops. Supply will increase because suppliers will want to sell now while the price is high. Current equilibrium price will fall. We cannot say what will happen to equilibrium quantity. (Note: The way it's drawn in the picture below, there's a very slight drop in the equilibrium quantity.)



- b. See below. The demand for HDTVs will increase. Current equilibrium price and quantity will increase.



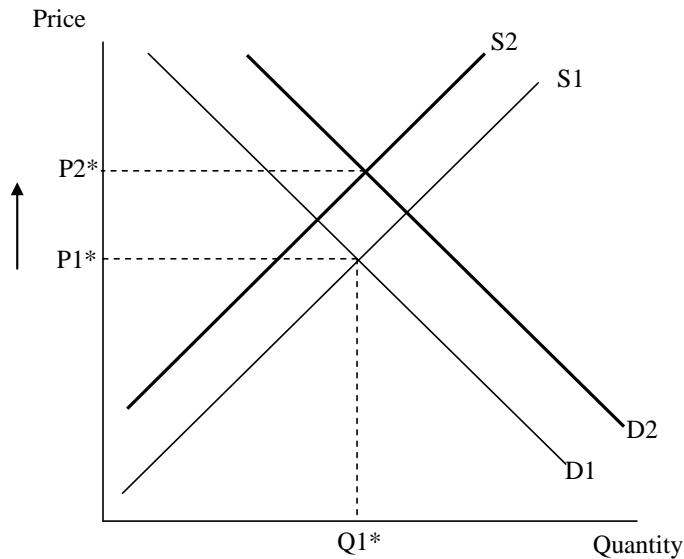
- c. It is possible that the price increase could also be due to a decrease in supply.

31. Consider the market for beer.

- Use a simple supply and demand graph to show the equilibrium price (P^*) and quantity (Q^*) of beer. Clearly label the supply curve, the demand curve, and the axes.
- Recently, the beer industry has been hit by a shortage of hops, which are used to make beer. At the same time, consumer income has been steadily increasing. On your graph, illustrate what will happen to the equilibrium price and quantity of beer as a result of the shortage of hops and the increase in consumer income. If you need to make

additional assumptions in order to answer this question, clearly state what those assumptions are.

- a. See below.
- b. Assume that beer is a normal good. The equilibrium price will rise, but equilibrium quantity could increase or decrease depending on the size of the shifts in supply and demand.



32. The table below provides information for the demand and supply of bacon cheeseburgers.

Price	Quantity of bacon cheeseburgers demanded	Quantity of bacon cheeseburgers supplied
<u>\$24</u>	<u>0</u>	<u>60</u>
<u>\$20</u>	<u>20</u>	<u>50</u>
<u>\$16</u>	<u>40</u>	<u>40</u>
<u>\$12</u>	<u>60</u>	<u>30</u>
<u>\$8</u>	<u>80</u>	<u>20</u>
<u>\$4</u>	<u>100</u>	<u>10</u>

Draw the demand and supply curves. Each curve should be drawn as a single line.

Answer: The simplest way to graph the demand and supply curves is to get the endpoints.

At a price of \$24, the quantity of bacon cheeseburgers demanded is zero; and at a price of \$4, the quantity of bacon cheeseburgers demanded is 100. The demand curve is therefore a straight line between those two points.

At a price of \$24, the quantity of bacon cheeseburgers supplied is 60; and at a price of \$4, the quantity of bacon cheeseburgers supplied is 10. The supply curve is therefore a straight line between those two points.

a. If the price of bacon cheeseburgers is currently \$20, there is _____.

Answer: At a price of \$20, the quantity supplied is 50 bacon cheeseburgers, and the quantity demanded is 20 bacon cheeseburgers. Therefore, there is a surplus of 30 units.

b. If the price of bacon cheeseburgers is currently \$8, there is _____.

Answer: At a price of \$8, the quantity supplied is 20 bacon cheeseburgers, and the quantity demanded is 80 bacon cheeseburgers. Therefore, there is a shortage of 60 units.

c. At the market equilibrium price, bacon cheeseburgers are exchanged. (Give your answer to the nearest whole number.)

Answer: The market equilibrium price is the price at which the quantity demanded is equal to the quantity supplied. Therefore, the market price is \$16, and 40 bacon cheeseburgers are exchanged.