

Chapter 2: DEMAND, SUPPLY, AND MARKET EQUILIBRIUM

Multiple Choice

- 2-1 If the price of a complement decreases, all else equal,
- quantity demanded will decrease.
 - quantity supplied will decrease.
 - demand will increase.
 - demand will decrease.
 - supply will increase.
- 2-2 The market demand curve for a given good shifts when there is a change in any of the following factors EXCEPT
- the price of the good.
 - the level of consumers' income.
 - the prices of goods related in consumption.
 - the tastes of consumers.
- 2-3 Which of the following would lead to a DECREASE in the demand for tennis balls?
- An increase in the price of tennis balls
 - A decrease in the price of tennis rackets
 - An increase in the cost of producing tennis balls
 - A decrease in average household income when tennis balls are a normal good
 - None of the above
- 2-4 If input prices increase, all else equal,
- quantity supplied will decrease.
 - supply will increase.
 - supply will decrease.
 - demand will decrease.
- 2-5 Which of the following would increase the supply of corn?
- an increase in the price of pesticides
 - a decrease in the demand for corn
 - a fall in the price of corn
 - a severe drought in the corn belt
 - a decrease in the price of wheat
- 2-6 When Sonoma Vineyards reduces the price of its Cabernet Sauvignon from \$15 a bottle to \$12 a bottle, the result is an increase in
- the demand for this wine.
 - the supply of this wine.
 - the quantity of this wine demanded.
 - the quantity of this wine supplied.
- 2-7 Which of the following will cause a change in quantity supplied?
- a change in input prices
 - technological change
 - a change in the number of firms in the market
 - a change in the market price of the good

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- 2-8 When the average price of videocassette recorders (VCRs) fall, the result is
- an increase in supply of VCRs.
 - an increase in the quantity of VCRs supplied.
 - an increase in the quantity of VCRs demanded.
 - a decrease in the quantity of VCRs demanded.

- 2-9 Use the following general linear demand relation to answer the following question:

$$Q_d = 680 - 9P + 0.006M - 4P_R$$

where M is income and P_R is the price of a related good, R . From this relation it is apparent that the good is:

- an inferior good
 - a substitute for good R
 - a normal good
 - a complement for good R
 - both c and d
- 2-10 Use the following general linear demand relation to answer the following question:

$$Q_d = 680 - 9P + 0.006M - 4P_R$$

where M is income and P_R is the price of a related good, R . If $M = \$15,000$ and $P_R = \$20$, the demand function is

- $P = 690 - 9Q_d$.
 - $Q_d = 690 - 9P$.
 - $Q_d = 680 - 9P$.
 - $P = 680 - 9Q_d$.
 - $Q_d = 800 - 19P$.
- 2-11 Use the following general linear demand relation to answer the following question:

$$Q_d = 680 - 9P + 0.006M - 4P_R$$

where M is income and P_R is the price of a related good, R . If $M = \$15,000$ and $P_R = \$20$ and the supply function is $Q_s = 30 + 3P$, equilibrium price and quantity are, respectively,

- $P = \$55$ and $Q = 195$.
- $P = \$6$ and $Q = 38$.
- $P = \$12$ and $Q = 200$.
- $P = \$50$ and $Q = 170$.
- $P = \$40$ and $Q = 250$.

2-12 Use the following general linear demand relation to answer the following question:

$$Q_d = 680 - 9P + 0.006M - 4P_R$$

where M is income and P_R is the price of a related good, R . If $M = \$15,000$ and $P_R = \$20$ and the supply function is $Q_s = 30 + 3P$, then, when the price of the good is \$60,

- a. there is a shortage of 60 units of the good.
- b. there is equilibrium in the market.
- c. there is a surplus of 60 units of the good.
- d. the quantities demanded and supplied are indeterminate.

2-13 Use the following general linear demand relation to answer the following question:

$$Q_d = 680 - 9P + 0.006M - 4P_R$$

where M is income and P_R is the price of a related good, R . If $M = \$15,000$ and $P_R = \$20$ and the supply function is $Q_s = 30 + 3P$, then, when the price of the good is \$40,

- a. there is equilibrium in the market.
- b. there is a shortage of 180 units of the good.
- c. there is a surplus of 180 units of the good.
- d. there is a shortage of 80 units of the good.

2-14 Use the following demand and supply functions to answer the following.

Demand: $Q_d = 50 - 4P$

Supply: $Q_s = 20 + 2P$

Equilibrium price and output are

- a. $P = \$5$ and $Q = 70$.
- b. $P = \$11$ and $Q = 3.32$.
- c. $P = \$12$ and $Q = 44$.
- d. $P = \$15$ and $Q = 50$.
- e. none of the above

2-15 Use the following demand and supply functions to answer the following.

Demand: $Q_d = 50 - 4P$

Supply: $Q_s = 20 + 2P$

If the price is \$10, there is a

- a. surplus of 30 units.
- b. shortage of 30 units.
- c. surplus of 40 units.
- d. shortage of 10 units.
- e. none of the above

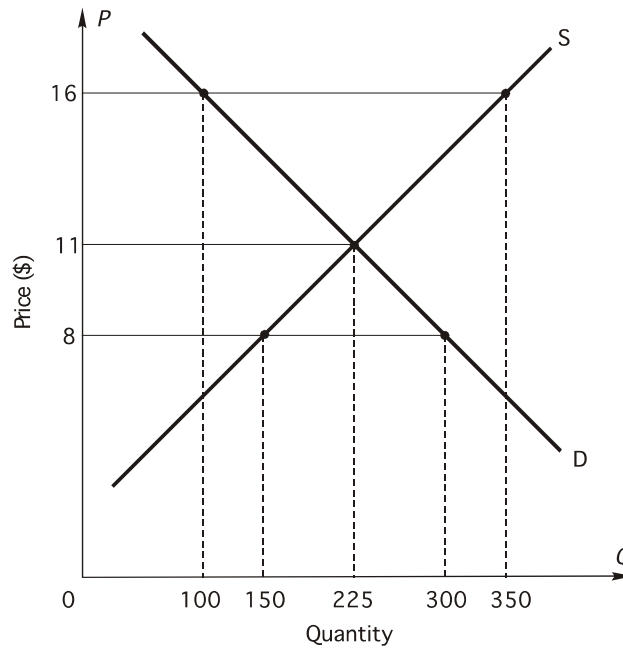
2-16 Use the following demand and supply functions to answer the following.

Demand: $Q_d = 50 - 4P$

Supply: $Q_s = 20 + 2P$

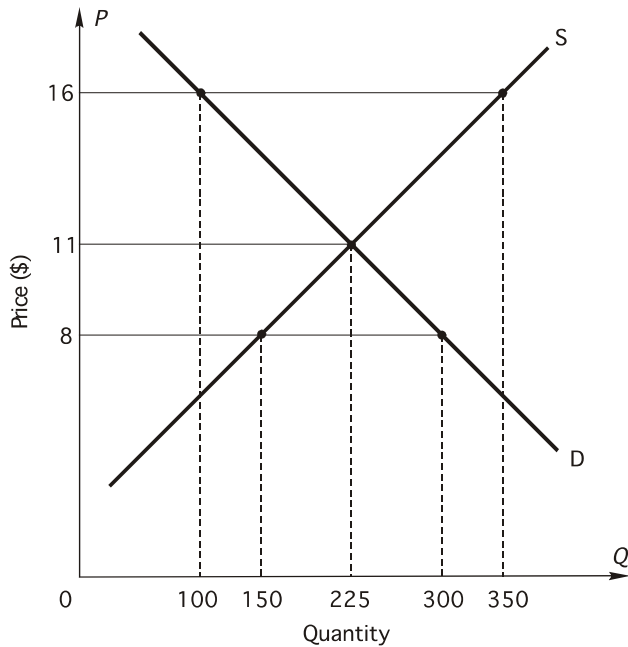
If the price is \$2, there is a

- a. surplus of 10 units.
- b. shortage of 10 units.
- c. surplus of 30 units.
- d. shortage of 18 units.
- e. none of the above

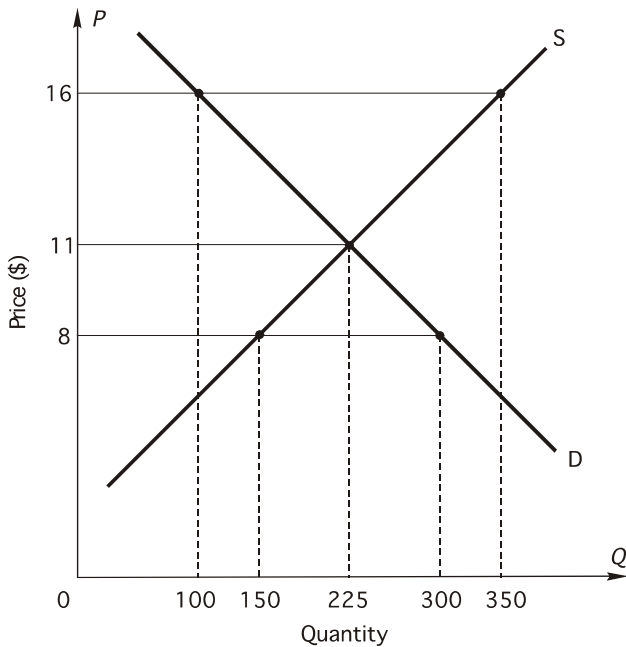


2-17 In the above figure, if price is \$16 there is

- a. a shortage of 250 units.
- b. a surplus of 250 units.
- c. a shortage of 125 units.
- d. a surplus of 125 units.
- e. equilibrium in the market.



- 2-18 In the above figure, if the price is \$6, the resulting
- surplus will lead to a fall in price.
 - shortage will lead to a fall in price.
 - surplus will lead to a rise in price.
 - shortage will lead to a rise in price.

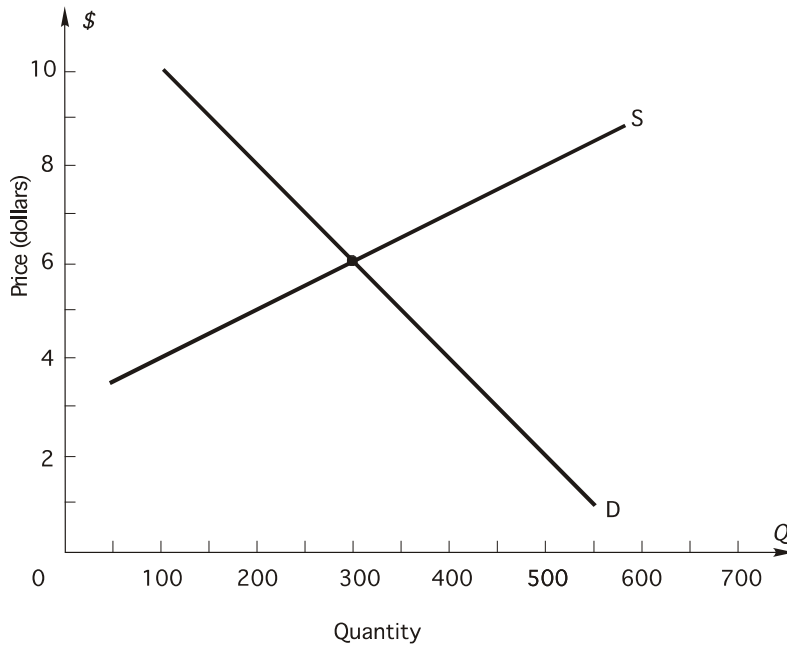


- 2-19 In the above figure, if price is \$8,
- there will be a surplus of 150 units.
 - there will be a shortage of 150 units.
 - price will fall.
 - shortage of 75 units.
 - surplus of 75 units.

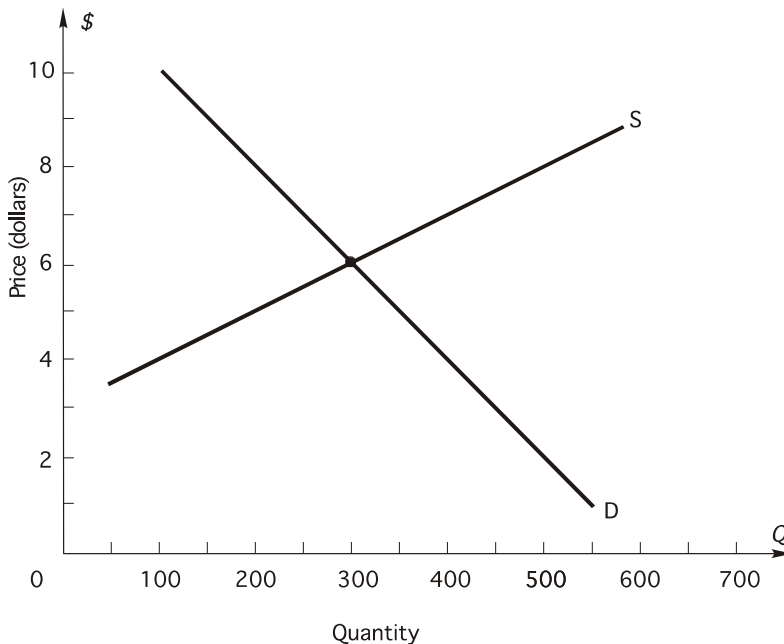
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- 2-20 Suppose that the market for salad dressing is in equilibrium. Then the price of lettuce rises. What will happen?
- The price of salad dressing will rise.
 - The supply of salad dressing will decrease.
 - The demand for salad dressing will decrease.
 - The quantity demanded of salad dressing will increase.
- 2-21 Scientists have developed a bacterium that they believe will lower the freezing point of agricultural products. This innovation could save farmers \$1 billion a year in crops now lost to frost damage. If this technology becomes widely used, what will happen to the equilibrium price and quantity in, for example, the potato market?
- price will decrease, quantity will decrease
 - price will decrease, quantity will increase
 - price will increase, quantity will decrease
 - price will increase, quantity will increase
 - The change in equilibrium price and quantity is indeterminate.
- 2-22 Suppose that the market for engagement rings is in equilibrium. Then political unrest in South Africa shuts down the diamond mines there. South Africa is the world's primary supplier of diamonds. What will happen?
- The equilibrium quantity of engagement rings will decrease.
 - The equilibrium price of engagement rings will decrease.
 - The demand for engagement rings will decrease.
 - The supply of engagement rings will increase.
- 2-23 So long as the actual market price exceeds the equilibrium market price, there will be
- downward pressure on the price.
 - upward pressure on the price.
 - excess demand.
 - a shortage.
- 2-24 In which of the following cases will the effect on equilibrium output be indeterminate (i.e., depend on the magnitudes of the shifts in supply and demand)?
- Demand increases and supply increases
 - Demand decreases and supply decreases
 - Demand decreases and supply increases
 - Demand remains constant and supply increases
- 2-25 Increases in the wage rates of coal miners and decreases in the price of natural gas would cause the price of coal to
- rise, fall, or remain unchanged depending on the magnitude of the changes, but the equilibrium quantity of coal would fall.
 - rise, fall, or remain unchanged depending on the magnitude of the changes, but the equilibrium quantity of coal would increase.
 - rise, but the equilibrium quantity of coal would rise or fall depending on the magnitude of the changes.
 - rise, but the equilibrium quantity of coal would fall.
 - fall, but the equilibrium quantity of coal would rise or fall depending on the magnitude of the changes.

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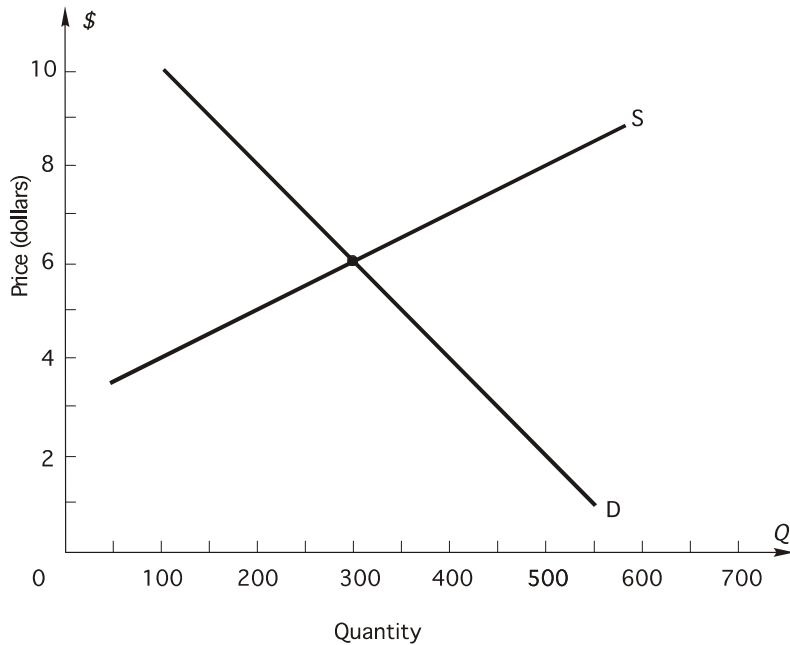


- 2-26 In the above figure, the equilibrium price and quantity are
- $P = \$6$ and $Q = 800$.
 - $P = \$4$ and $Q = 300$.
 - $P = \$4$ and $Q = 400$.
 - $P = \$6$ and $Q = 300$.
 - $P = \$7$ and $Q = 800$.

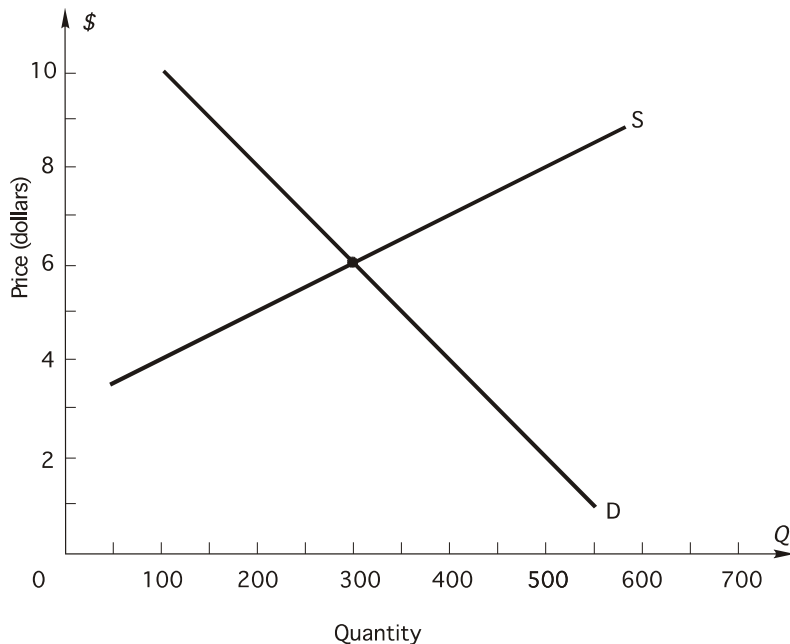


- 2-27 In the above figure, let demand remain constant at D ; an increase in wages causes firms to be willing and able to sell 150 fewer units at each price than they were before the wage increase.
- The new equilibrium price and quantity will be $P = \$6$ and $Q = 150$.
 - The new equilibrium price and quantity will be $P = \$6$ and $Q = 400$.
 - The new equilibrium price and quantity will be $P = \$7$ and $Q = 250$.
 - The new equilibrium price and quantity will be $P = \$8$ and $Q = 300$.

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- 2-28 In the above figure, let supply remain constant at S ; a decrease in income causes consumers to be willing and able to purchase 150 fewer units at each price than they were previously.
- The new equilibrium price and quantity will be $P = \$6$ and $Q = 150$.
 - The new equilibrium price and quantity will be $P = \$5$ and $Q = 150$.
 - The new equilibrium price and quantity will be $P = \$7$ and $Q = 250$.
 - The new equilibrium price and quantity will be $P = \$5$ and $Q = 200$.



- 2-29 In the above figure, let supply remain constant at S ; an increase in the price of a substitute good causes consumers to be willing and able to buy 150 more units of the good at each price in the list than they were when demand was D . Which of the following statements is (are) true?
- At the original equilibrium price there will be a shortage of 150.
 - At the original equilibrium price there will be a surplus of 150
 - At the new equilibrium $P = \$6$ and $Q = 450$.
 - At the new equilibrium $P = \$7$ and $Q = 400$.
 - both a and d

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2-30 Use the following demand and supply functions to answer the following question:

$$\text{Demand: } Q_d = 900 - 60P$$

$$\text{Supply: } Q_s = -200 + 50P$$

Equilibrium price and output are

- a. $P = \$7$ and $Q = 480$.
- b. $P = \$10$ and $Q = 300$.
- c. $P = \$20$ and $Q = 150$.
- d. $P = \$100$ and $Q = 5,300$.
- e. none of the above

2-31 Use the following demand and supply functions to answer the following question:

$$\text{Demand: } Q_d = 900 - 60P$$

$$\text{Supply: } Q_s = -200 + 50P$$

If the price is currently \$11, there is a

- a. surplus of 110 units.
- b. shortage of 240 units.
- c. surplus of 350 units.
- d. shortage of 700 units.
- e. none of the above

2-32 Use the following demand and supply functions to answer the following question:

$$\text{Demand: } Q_d = 900 - 60P$$

$$\text{Supply: } Q_s = -200 + 50P$$

Let supply remain constant; an increase in income causes consumers to be willing and able to buy 220 more units at each price than they were previously. The new equilibrium price and quantity are

- a. $P = \$10$ and $Q = 520$.
- b. $P = \$12$ and $Q = 400$.
- c. $P = \$10$ and $Q = 80$.
- d. $P = \$15$ and $Q = 600$.
- e. none of the above

2-33 A "puppy boom" and an increase in the price of horse meat would cause the market price of dog food to

- a. rise, fall, or remain unchanged depending on the magnitude of the changes, and the market output to rise.
- b. rise and the market output to rise, fall, or remain unchanged depending on the magnitude of the changes.
- c. rise and the market output to rise .
- d. fall and the market output to rise, fall, or remain unchanged depending on the magnitude of the changes.
- e. none of the above

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- 2-34 With a given supply curve, a decrease in demand leads to
- a decrease in equilibrium price and an increase in equilibrium quantity.
 - an increase in equilibrium price and a decrease in equilibrium quantity.
 - a decrease in equilibrium price and a decrease in equilibrium quantity.
 - no change in price and a decrease in equilibrium quantity.
 - none of the above
- 2-35 Suppose that more people want Orange Bowl tickets than the number of tickets available. Which of the following statements is correct?
- There is a shortage of Orange Bowl tickets at the box office price.
 - The box office price is higher than the equilibrium price for Orange Bowl tickets.
 - If the box office price were raised, the excess demand for Orange Bowl tickets would decrease.
 - both *a* and *c*
 - all of the above
- 2-36 Use the following general linear demand relation to answer the following question

$$Q_d = 100 - 5P + 0.004M - 5P_R$$

where P is the price of good X , M is income, and P_R is the price of a related good, R . What is the demand function when $M = \$50,000$ and $P_R = \$10$?

- $Q_d = 350 - 5P$
 - $Q_d = 300 - 5P$
 - $Q_d = 200 - 5P$
 - $Q_d = 100 - 5P$
 - none of the above
- 2-37 Use the following general linear demand relation to answer the following question

$$Q_d = 100 - 5P + 0.004M - 5P_R$$

where P is the price of good X , M is income, and P_R is the price of a related good, R . From the demand function it is apparent that related good R is

- normal.
 - inferior.
 - a substitute for good X .
 - a complement for good X .
- 2-38 Use the following general linear demand relation to answer the following question

$$Q_d = 100 - 5P + 0.004M - 5P_R$$

where P is the price of good X , M is income, and P_R is the price of a related good, R . If $M = \$50,000$ and $P_R = \$10$ and the supply function is $Q_s = 150 + 5P$, market price and output are, respectively,

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- a. $P = \$12$ and $Q = 150$.
- b. $P = \$10$ and $Q = 200$.
- c. $P = \$12$ and $Q = 200$.
- d. $P = \$15$ and $Q = 175$.
- e. $P = \$15$ and $Q = 225$.

2-39 Use the following general linear demand relation to answer the following question

$$Q_d = 100 - 5P + 0.004M - 5P_R$$

where P is the price of good X , M is income, and P_R is the price of a related good, R . If income increases to \$100,000 and the price of the related good is now \$20, what is the demand function?

- a. $Q_d = 300 - 5P$
- b. $Q_d = 400 - 10P$
- c. $Q_d = 100 - 10P$
- d. $Q_d = 400 - 5P$
- e. none of the above

2-40 Use the following general linear demand relation to answer the following question

$$Q_d = 100 - 5P + 0.004M - 5P_R$$

where P is the price of good X , M is income, and P_R is the price of a related good, R . Income is \$100,000, the price of the related good is \$20, and the supply function is $Q_s = 150 + 5P$. What is the equilibrium price?

- a. \$30
- b. \$25
- c. \$40
- d. \$35
- e. \$50

2-41 Use the following general linear demand relation to answer the following question

$$Q_d = 100 - 5P + 0.004M - 5P_R$$

where P is the price of good X , M is income, and P_R is the price of a related good, R . Income is \$80,000, and the price of the related good is \$40. Also let consumers' tastes change so that consumers now demand 100 more units at each price. When the price of the good is \$50, how many units of the good are demanded?

- a. 70
- b. 200
- c. 220
- d. 100
- e. none of the above

- 2-42 If a demand curve goes through the point $P = \$6$ and $Q_d = 400$, then
- \$6 is the highest price consumers will pay for 400 units.
 - \$6 is the lowest price consumers can be charged to induce them to buy 400 units.
 - 400 units are the most consumers will buy if price is \$6.
 - consumers will buy more than 400 if price is \$6.
 - both *a* and *c*

- 2-43 If a supply curve goes through the point $P = \$10$ and $Q_s = 320$, then
- \$10 is the highest price that will induce firms to supply 320 units.
 - \$10 is the lowest price that will induce firms to supply 320 units.
 - at a price higher than \$10 there will be a surplus.
 - at a price lower than \$10 there will be a shortage.
 - both *c* and *d*

- 2-44 Use the following general linear supply function to answer the following question

$$Q_s = 40 + 6P - 8P_I + 10F$$

where Q_s is the quantity supplied of the good, P is the price of the good, P_I is the price of an input, and F is the number of firms producing the good. If $P_I = \$20$ and $F = 60$ what is the equation of the supply function?

- $Q_s = 400 + 6P$
 - $Q_s = 40 + 8P$
 - $P = 480 + 6Q_s$
 - $Q_s = 480 + 6P$
 - none of the above
- 2-45 Use the following general linear supply function to answer the following question

$$Q_s = 40 + 6P - 8P_I + 10F$$

where Q_s is the quantity supplied of the good, P is the price of the good, P_I is the price of an input, and F is the number of firms producing the good. If $P_I = \$20$, $F = 60$, and the demand function is $Q_d = 600 - 6P$ the equilibrium price and quantity are, respectively,

- $P = \$10$ and $Q = 640$.
- $P = \$8$ and $Q = 326$.
- $P = \$10$ and $Q = 540$.
- $P = \$8$ and $Q = 640$.
- none of the above.

- 2-46 Use the following general linear supply function to answer the following question

$$Q_s = 40 + 6P - 8P_I + 10F$$

where Q_s is the quantity supplied of the good, P is the price of the good, P_I is the price of an input, and F is the number of firms producing the good. Now suppose $P_I = \$40$ and $F = 50$, what is the largest amount of the good that firms will supply when the price of the good is \$20?

- a. 340 units
- b. 220 units
- c. 80 units
- d. 120 units

- 2-47 Use the following general linear supply function to answer the following question

$$Q_s = 40 + 6P - 8P_I + 10F$$

where Q_s is the quantity supplied of the good, P is the price of the good, P_I is the price of an input, and F is the number of firms producing the good. When $P_I = \$40$ and $F = 50$, the INVERSE supply function is

- a. $P = -36.667 + 0.1667Q_s$.
- b. $P = -220 + 6Q_s$.
- c. $P = 220 + 0.1667Q_s$.
- d. $P = 220 + 6Q_s$.

- 2-48 Use the following general linear supply function to answer the following question

$$Q_s = 40 + 6P - 8P_I + 10F$$

where Q_s is the quantity supplied of the good, P is the price of the good, P_I is the price of an input, and F is the number of firms producing the good. Again suppose $P_I = \$40$ and $F = 50$, what is the lowest price that will induce firms to supply 400 units of output?

- a. \$15
- b. \$20
- c. \$25
- d. \$30
- e. \$35

- 2-49 Use the following general linear supply function to answer the following question

$$Q_s = 40 + 6P - 8P_I + 10F$$

where Q_s is the quantity supplied of the good, P is the price of the good, P_I is the price of an input, and F is the number of firms producing the good. Suppose $P_I = \$40$, $F = 50$, and the demand function is $Q_d = 700 - 6P$, then if government sets a price of \$50 what will be the result?

- a. a shortage of 120
- b. a surplus of 120

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- c. a shortage of 160
- d. a surplus of 160

2-50 Use the following general linear supply function to answer the following question

$$Q_s = 40 + 6P - 8P_I + 10F$$

where Q_s is the quantity supplied of the good, P is the price of the good, P_I is the price of an input, and F is the number of firms producing the good. Suppose $P_I = \$40$, $F = 50$, and the demand function is $Q_d = 700 - 6P$, then if government sets a price of \$30 what will be the result?

- a. a shortage of 120
- b. a surplus of 120
- c. a shortage of 160
- d. a surplus of 160

2-51 The general linear demand function below is used to answer the following question

$$Q_d = a + bP + cM + dP_R$$

where Q_d = quantity demanded, P = the price of the good, M = income, P_R = the price of a good related in consumption. The law of demand requires that

- a. $a < 0$.
- b. $b < 0$.
- c. $P < 0$.
- d. $a < 0$ and $b < 0$.
- e. $b < 0$ and $P < 0$.

2-52 The general linear demand function below is used to answer the following question

$$Q_d = a + bP + cM + dP_R$$

where Q_d = quantity demanded, P = the price of the good, M = income, P_R = the price of a good related in consumption. If $c = 15$ and $d = 20$, the good is

- a. a normal good.
- b. an inferior good.
- c. a substitute for good R .
- d. a complement with good R .
- e. both a and c

2-53 The general linear demand function below is used to answer the following question

$$Q_d = a + bP + cM + dP_R$$

where Q_d = quantity demanded, P = the price of the good, M = income, P_R = the price of a good related in consumption. For the general linear demand function given above

- a. $DQ_d / DM = c$.
- b. d is the effect on the quantity demanded of the good of a one-dollar change in the price of the related good, all other things constant.

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- c. b is the effect on the quantity demanded of the good of a one-dollar change in the price of the good, all other things constant.
- d. all of the above

2-54 The general linear demand function below is used to answer the following question

$$Q_d = a + bP + cM + dP_R$$

where Q_d = quantity demanded, P = the price of the good, M = income, P_R = the price of a good related in consumption. If the current price of a good is \$10, market demand is $Q_d = 400 - 20P$, and market supply is $Q_s = -50 + 10P$, then

- a. more of the good is being produced than people want to buy.
 - b. a lower price will increase the shortage.
 - c. at the current price there is excess demand, or a shortage, of 150 units.
 - d. Both b and c
 - e. All of the above
- 2-55 Yesterday's newspaper reported the results of a study indicating that people who eat more bananas are more attractive to the opposite sex. What do you expect to happen to the market price and quantity of bananas?
- a. price will decrease, quantity will decrease
 - b. price will decrease, quantity will increase
 - c. price will increase, quantity will decrease
 - d. price will increase, quantity will increase
- 2-56 If the market price of eggs rises at the same time as the market quantity of eggs purchased decreases, this could have been caused by
- a. an increase in demand with no change in supply.
 - b. a decrease in supply with no change in demand.
 - c. an increase in supply and an increase in demand.
 - d. an increase in supply and a decrease in demand.
- 2-57 Derrick owns and operates a bakery. Every Saturday he bakes a batch of fresh kolaches, and every Saturday he sells all the kolaches and has to turn some customers away. Which of the following statements is correct?
- a. At the current price, quantity demanded exceeds quantity supplied.
 - b. The current price is higher than the equilibrium price.
 - c. If Derrick lowered the price of kolaches, the shortage would increase.
 - d. both a and c
 - e. all of the above
- 2-58 In which of the following cases must price always fall?
- a. Demand increases and supply increases.
 - b. Demand decreases and supply decreases.
 - c. Supply increases and demand remains constant.
 - d. Demand decreases and supply increases.
 - e. Both c and d

- 2-59 Consumer surplus
- is positive for all but the last unit purchased.
 - for a particular unit of consumption is computed by taking the difference between demand price and market price.
 - for all units consumed is the area below demand and above market price over all the units consumed.
 - added to producer surplus provides a measure of the net gain to society from the production and consumption of the good.
 - all of the above
- 2-60 If the demand price for the 2,000th unit of a good is \$10, then
- total consumer surplus for 2,000 units is \$10,000.
 - the economic value of the 2,000th unit is \$10.
 - consumer surplus for the 2,000th unit can be computed by subtracting the supply price for the 2,000th unit.
 - the net gain to society from the production and consumption of the 2,000th unit can be computed by subtracting the supply price from \$10.
 - Both *b* and *d*
- 2-61 Suppose an individual buyer values a pound of butter at \$10. If the market price of butter is \$8, what is the consumer surplus for this buyer?
- \$0
 - \$2
 - \$3
 - \$4
 - \$5
- 2-62 If the market price of a good is \$150 and the supply price of the good is \$70, what is the producer surplus if any?
- \$0
 - \$70
 - \$80
 - \$150
 - \$220
- 2-63 Suppose the demand and supply curves for good *X* are both *linear*. And, the demand price for the first unit of *X* is \$28, and the supply price for the first unit of *X* is \$6. If the equilibrium price for good *X* is \$16 and the equilibrium quantity of *X* is 24,000 units, then *total* consumer surplus is \$ _____, *total* producer surplus is \$ _____, and *total* social surplus is \$ _____.
- \$28; \$6; \$16
 - \$144,000; \$120,000; \$264,000
 - \$120,000; \$144,000; \$264,000
 - \$672,000; \$144,000; \$384,000
 - \$144,000; \$672,000; \$384,000
- 2-64 Suppose there are only three consumers in the market for a good and each consumer will buy only one unit of the good. Their individual economic values for the good are \$6, \$8, and \$12, respectively. If the market price for the good is \$10, what is the *total* consumer surplus for the three buyers?
- \$2
 - \$4
 - \$6

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- d. \$8
 - e. \$12
-

Fill-in-the-Blank

- 2-1F In the general demand function, when a good is a normal good, the sign on the slope parameter of _____ is _____ (positive, negative, zero).
- 2-2F In the general demand function, if goods X and R are substitutes, the sign on the slope parameter of the _____ good is _____ (positive, negative, zero).
- 2-3F The demand function slopes _____ because of the law of _____ which states that, other things equal, price and quantity demanded are _____ related.
- 2-4F If income increases, the demand for a(n) _____ good will decrease.
- 2-5F In the general supply function, the sign of the slope parameter on the price of an input is _____ (positive, negative, zero) because a DECREASE in the price of an input will cause the amount supplied to _____ (increase, decrease) at each price of the good. As a consequence, the supply curve shifts _____ (leftward, rightward), and supply is said to _____ (increase, decrease).
- 2-6F In the general supply function, the sign of the slope parameter on the price of goods related in production is _____ (positive, negative, zero) when the goods are complements in production because a DECREASE in the price of a complementary good in production causes the amount supplied to _____ (increase, decrease) at each price of the good. As a consequence, the supply curve shifts _____ (leftward, rightward), and supply is said to _____ (increase, decrease).
- 2-7F An increase in the number of firms or productive capacity in an industry causes supply to _____ (increase, decrease).
- 2-8F When price is higher than the equilibrium price, quantity supplied is _____ than quantity demanded, and excess _____ exists.
- 2-9F When price is lower than the equilibrium price, quantity supplied is _____ than quantity demanded, and excess _____ exists.
- 2-10F When demand increases, supply constant, equilibrium price _____ and equilibrium quantity _____.
- 2-11F When supply decreases, demand constant, equilibrium price _____ and equilibrium quantity _____.

2-12F If demand increases while supply simultaneously decreases, equilibrium price _____ (rises, falls, may either rise or fall) and equilibrium quantity _____ (rises, falls, may either rise or fall).

2-13F If demand decreases while supply simultaneously decreases, equilibrium price _____ (rises, falls, may either rise or fall) and equilibrium quantity _____ (rises, falls, may either rise or fall).

2-14F When government imposes a ceiling price below the equilibrium price, a _____ results. When government sets a floor price above the equilibrium price, a _____ results.

2-15F The general demand function for good A is

$$Q_d = 1,200 - 6P + 0.5M - 10P_B + 4\hat{A} + 2P_e + 3N$$

where Q_d = quantity demanded of good A per month, P = the price of good A , M = average household income, P_B = price of related good B , \hat{A} = a consumer taste index, P_e = price consumers expect to pay next month for good A , and N = number of buyers in market for good.

- Good A is a(n) _____ good because the slope parameter on _____ is _____.
- Goods A and B are _____ because the slope parameter on _____ is _____.
- When $P = \$6$, $M = \$40,000$, $P_B = \$20$, $\hat{A} = 8$, $P_e = \$2$, and $N = 10,000$, quantity demanded of good A is _____ units per month.

2-16F The general supply function is $Q_s = 40 + 4P - 8P_I + 6F$, where Q_s = quantity supplied per month, P = the price of the commodity, P_I = price of an input, and F = number of sellers.

- The supply function when $P_I = \$90$ and $F = 20$ is _____. The supply function intersects the price axis at a price of \$_____.
- Using the supply function in part a , the quantity supplied when the price of the commodity is \$300 is _____ units per month. When the price is \$400, the quantity supplied is _____ units per month.
- The INVERSE supply equation (for part a) is _____. The supply price for 750 units per month is \$_____.

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2-17F Suppose that the demand and supply functions for good X are

$$Q_d = 75 - 3P$$

$$Q_s = -20 + 6.5P$$

- Equilibrium price is \$_____ and equilibrium quantity is _____ units.
- If price is \$8, then a _____ of _____ units occurs. If price is \$12, then a _____ of _____ units occurs.
- Let the demand function change to $Q_d = 80 - 6P$. Given the ORIGINAL supply function, the equilibrium price is \$_____ and equilibrium quantity is _____ units.
- Let the supply function change to $Q_s = -40 + 12P$. Given the ORIGINAL demand function, the equilibrium price is \$_____ and equilibrium quantity is _____ units.

2-18F The general demand and supply functions for good A are estimated to be, respectively:

$$Q_d = 52.50 - 2.0P + 0.0150M + 7.00P_R$$

$$Q_s = -500.0 + 8.0P$$

where Q_d is quantity demanded per month, Q_s is quantity supplied per month, P is price of good A, M is average household income, and P_R is the price of a related good R. Assume the following values of the shift variables: $M = \$42,500$, and $P_R = \$30$.

- The equation for INVERSE demand is _____.
- The maximum price at which 500 units of good A can be sold is _____.
- The minimum price producers will accept to supply 500 units of good A is _____.
- If price is \$150, _____ (a shortage, a surplus, equilibrium) occurs of _____ units of good A.
- The market clearing price of good A is \$_____.

2-19F Consider the market for unleaded gasoline in the U.S.

- Event A: The Memorial Day holiday arrives in May and many motorists take to the road. As a result of Event A, _____ (demand, supply, both demand and supply) for gasoline will _____ (increase, decrease). By itself, Event A will cause the price of unleaded gasoline in the U.S. to _____ (increase, decrease, stay the same) and quantity of gasoline bought and sold will _____ (increase, decrease, stay the same).
- Event B: Refineries of gasoline in the U.S. increase their capacity to refine gasoline from crude oil by 20 percent. As a result of Event B, _____ (demand, supply, both demand and supply) for gasoline will _____ (increase, decrease). By itself, Event B will cause the price of unleaded gasoline in the U.S. to _____ (increase, decrease, stay the same) and quantity of gasoline bought and sold will _____ (increase, decrease, stay the same).

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- c. If Events *A* and *B* occur together (i.e. simultaneously), the price of unleaded gasoline in the U.S. _____ (is going to increase, is going to decrease, may rise or fall or stay the same) and quantity of gasoline bought and sold _____ (is going to increase, is going to decrease, may rise or fall or stay the same).
- d. Explain carefully and concisely the conditions under which a shortage of gasoline can occur in the U.S

2-20F The following events occur simultaneously:

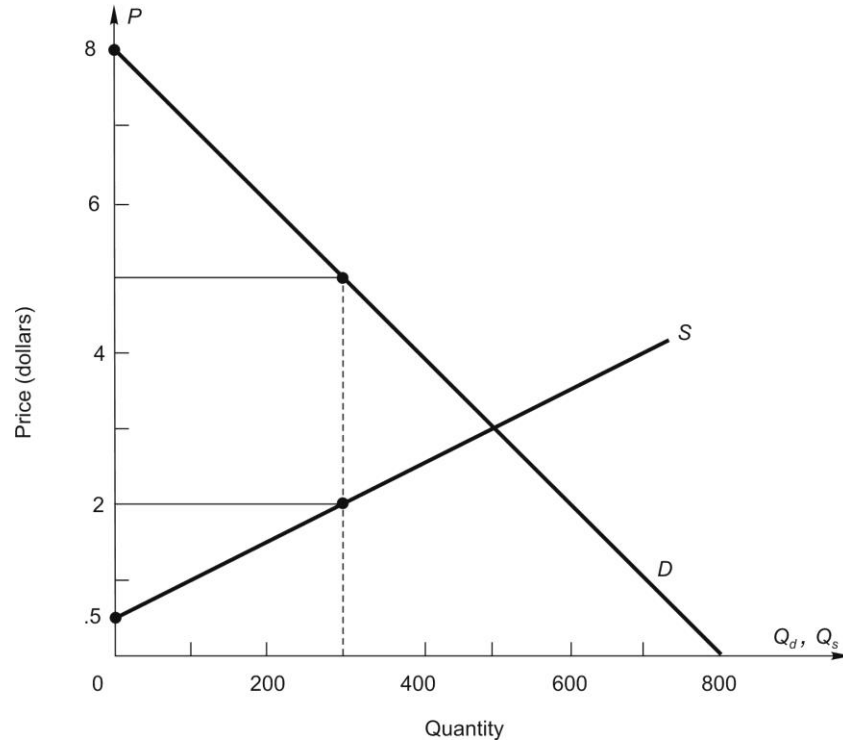
- (i) The price of beef rises (beef and leather both come from cows).
 (ii) The price of alligator hides increases.
- b. Draw a demand-and-supply graph showing equilibrium in the market for leather before the two events described above. Label the axes and curves. Label the initial equilibrium – before events (i) and (ii)– as P_0 and Q_0 on your graph.
- c. Now show on your graph how event (i) affects the demand or supply curves for leather. Briefly explain which of the demand or supply variables caused the effect you are showing on your graph.
- d. Now show on your graph how event (ii) affects the demand or supply curves for leather. Briefly explain which of the demand or supply variables caused the effect you are showing on your graph.
- e. Based on your graphic analysis, what do you predict will happen to the equilibrium price of leather? The equilibrium quantity of leather?

2-21F You are a financial analyst with a specialization in the motion picture industry. You have been hired to analyze the prices of movie theater tickets. The following two events are occurring (simultaneously) in the United States:

- (i) A new national chain opens new multi-screen movie theaters in most U.S. cities.
 (ii) Movie theaters cut the price of popcorn and soft drinks in half.
- a. Draw a demand-and-supply graph showing equilibrium in the market for movie tickets before the above two events take place. Label the axes and curves. Label the initial equilibrium — before events (i) and (ii)— as P_0 and Q_0 on your graph.
- b. Now show on your graph how event (i) affects the demand or supply curves for movie tickets. Briefly explain which of the demand or supply variables caused the effect you are showing on your graph.
- c. Now show on your graph how event (ii) affects the demand or supply curves for movie tickets. Briefly explain which of the demand or supply variables caused the effect you are showing on your graph.
- d. Based on your graphic analysis, what do you predict will happen to the equilibrium price of movie tickets? The equilibrium quantity of movie tickets?

2-22F “A decrease in the supply of RAM chips for computers causes a shortage of RAM chips.” Evaluate this statement.

2-23F Use the linear demand and supply curves shown below to answer the following questions:



- The market or equilibrium price is \$ _____.
- The economic value of the 300th unit is \$ _____, and the minimum price producers will accept to produce this unit is \$ _____.
- For the 300th unit, consumer surplus is \$ _____, and producer surplus is \$ _____.
- At the market price in part *a*, the net gain to consumers when 300 units are purchased is \$ _____.
- At the market price in part *a*, the net gain to producers when they supply 300 units is \$ _____.
- The net gain to society when 300 units are produced and consumed at the market price is \$ _____, which is called _____.
- In market equilibrium, total consumer surplus is \$ _____, and the total producer surplus is \$ _____.
- The net gain to society created by this market is \$ _____.

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