Practice AP Questions 2.1, 2.2, 2.3, 2.4

1. According to the law of demand, an increase in the price of grape juice will result in

(A) a rightward shift in the demand curve for grape juice

(B) a leftward shift in the demand curve for grape juice

(C) a decrease in the demand for orange juice, a substitute

(D) a decrease in the quantity of grape juice demanded ✓

(E) an increase in the quantity of grape juice supplied

2. A city transit authority increases the price of sub- way and bus tickets from $1.25 to 1.50$. If the demand for these tickets is price inelastic, the number of people riding buses and subways and the city's revenues will most likely change in which of the following ways?

(A)

Number of People Riding	City's Revenues
Increase	Increase

(B) ✓

Number of People Riding	City's Revenues
Decrease	Increase

(C)

Number of People Riding	City's Revenues
Decrease	Decrease

(D)

Number of People Riding	City's Revenues
Decrease	Remain constant

(E)

Number of People Riding	City's Revenues
Remain constant	Increase

Practice AP Quetions 2.1, 2.2, 2.3, 2.4

3. An air-conditioning unit is a normal good. Which of the following would cause an increase in the equilibrium price and equilibrium quantity of air-conditioning units in the short run?

(A) Consumers expect a greater increase in the future price of air-conditioning units.

(B) Producers expect a greater increase in the future price of air-conditioning units.

(C) The price of air filters, an input in producing air-conditioning units, increases.

(D) The price of fans, a substitute in consumption, decreases.

(E) Consumers' incomes decrease.

Answer A

Correct. When consumers expect a greater increase in the future price of air-conditioning units, a normal good, they will be incentivized to purchase air-conditioning units, causing demand to increase, which increases the equilibrium price and equilibrium quantity in the short run.

4. A leftward shift in the supply curve of watches could be caused by

(A) an increase in the price of watches

(B) an increase in wages paid to workers who produce watches

(C) an improvement in the technology associated with watchmaking

(D) a decrease in the price of parts used in the production of watches

(E) an increase in population

5. All of the following cause a rightward shift in the demand schedule for a normal good EXCEPT

(A) a decrease in the price of the good

(B) a decrease in the price of a complementary good

(C) an increase in the price of a substitute good

(D) an increase in consumers' income

(E) an increase in consumers' preference for the good

6. An increase in the supply of coffee could be caused by

(A) a decrease in the price of cream, which is a complement to coffee

(B) a decrease in the cost of labor used to produce coffee

(C) an increase in consumer income

(D) an increase in the demand for coffee

(E) an increase in the price of coffee

7. Assume that consumers consider popcorn and pretzels to be substitutes. A significant decrease in the supply of popcorn will affect the pretzel market by

(A) increasing the demand for pretzels and therefore the supply of pretzels

(B) increasing the demand for pretzels and therefore the price of pretzels

(C) decreasing the demand for pretzels and therefore the price of pretzels

(D) increasing the supply of pretzels and therefore the price of pretzels

(E) decreasing the supply of pretzels and therefore the price of pretzels

Practice AP Questions 2.1, 2.2, 2.3, 2.4

8. Assume that demand for bottled water is relatively price elastic. An increase in supply of bottled water will result in which of the following?

(A) A decrease in price, leading to an increase in total revenue ✓

(B) A decrease in price, leading to a decrease in total revenue

(C) An excess supply of bottled water

(D) An excess demand for bottled water

(E) A relatively small decrease in price and no change in equilibrium quantity

9. Assume that good X is a normal good. Which of the following helps to explain why a decrease in the price of good X increases the quantity demanded of good X?

(A) Good X becomes relatively less expensive than its substitutes, so consumers buy more of good X and fewer of the substitutes ✓

(B) The marginal utility of consuming good X increases as more of good X is consumed.

(C) The lower price of good X decreases the marginal utility per dollar; therefore, consumers buy more of good X.

(D) The demand curve for good X shifts to the left.

(E) The supply curve for good X shifts to the right.

10. Assume that ice cream is a normal good. If the price of ice cream decreases, the substitution effect and the income effect will lead to which of the following changes in ice cream consumption?

(A)

Substitution Effect	**Income Effect**
Increase	Decrease

(B) ✓

Substitution Effect	**Income Effect**
Increase	Increase

(C)

Substitution Effect	**Income Effect**
Increase	No change

(D)

Substitution Effect	**Income Effect**
Decrease	Increase

(E)

Substitution Effect	**Income Effect**
Decrease	No change

Practice AP Questions 2.1, 2.2, 2.3, 2.4

11. Assume that people like onions on their hamburgers. If the supply of hamburgers decreases, the demand for onions will most likely

(A) remain unchanged because hamburgers and onions are different goods
(B) increase because hamburgers and onions are substitutes
(C) increase because hamburgers and onions are complements
(D) decrease because hamburgers and onions are complements ✓
(E) decrease because hamburgers and onions are substitutes

12. Assume that the price of good X decreases from $10 to 9$ per unit and that the quantity demanded of good X increases from 25 to 30 units. In this price range, the demand for good X is

(A) inelastic
(B) elastic ✓
(C) unit elastic
(D) perfectly inelastic
(E) perfectly elastic

13. If the price elasticity of supply for pickles is 2 and the price of pickles increases by 10 percent, then the quantity supplied of pickles will increase by

(A) 0.2%
(B) 5%
(C) 8%
(D) 12%
(E) 20% ✓

Answer E

Correct. The price elasticity of supply is defined as the percentage change in the quantity supplied of a good divided by the percentage change in the price of the good. Given the value for the elasticity and the percentage change in the price, the resulting percentage change in the quantity supplied can be determined as follows: percentage change in quantity supplied $=$ (elasticity of supply $\times$ the percentage change in price) $= (2 \times 10\%) = 20\%$.

14. If a 10 percent increase in the price of a good leads to a 25 percent decrease in the quantity demanded of the good, demand is

(A) relatively inelastic
(B) relatively elastic ✓
(C) unit elastic
(D) perfectly elastic
(E) perfectly inelastic

Practice AP Questions 2.1, 2.2, 2.3, 2.4

15. Carmen consumes both entertainment and medical care. For Carmen, entertainment is a normal good, and the income elasticity of her demand for medical care is zero.

If Carmen's income increases, which of the following will be the immediate impact on her consumption?

(A) Entertainment: Increase; Medical care: Increase

Entertainment	Medical care
Increase	Increase

(B) ✓

Entertainment	Medical care
Increase	No change

(C)

Entertainment	Medical care
No change	Increase

(D)

Entertainment	Medical care
Increase	Decrease

(E)

Entertainment	Medical care
Decrease	Increase

16. Which of the following will cause the demand for a normal good to increase?

(A) A decrease in consumers' income

(B) A decrease in the price of a complementary good ✓

(C) A decrease in the price of a substitute good

(D) A decrease in the price of the good

(E) A decrease in the number of consumers

Answer B

Correct. A decrease in the price of a complementary good will lead to an increase in demand for the normal good. When goods are complements of each other, this means that the goods are often used together, and therefore consumption of one good tends to enhance consumption of the other.

Practice AP Quetions 2.1, 2.2, 2.3, 2.4

17. In a perfectly competitive market, a change in which of the following could cause a shift in the supply curve?

(A) The incomes of consumers

(B) The number of buyers

(C) Technology ✓

(D) The price of the product

(E) Tastes and preferences

18. Moving from left to right along a downward- sloping linear demand curve, price elasticity varies in which of the following ways?

(A) First unit elastic, then inelastic throughout

(B) First unit elastic, then elastic throughout

(C) First inelastic, then unit elastic throughout

(D) First elastic, then unit elastic, and finally inelastic ✓

(E) First inelastic, then unit elastic, and finally elastic

19. Which of the following will shift the supply curve for apples to the right?

(A) An increase in consumers' income

(B) An increase in the price of apples

(C) An increase in the wages of apple pickers

(D) A decrease in the rental price for apple harvesting equipment ✓

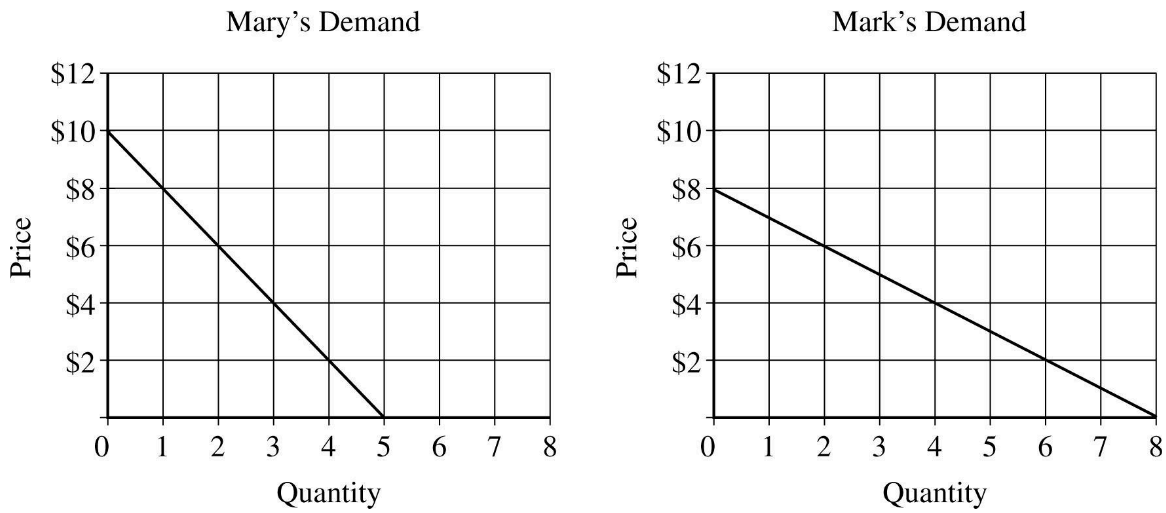
(E) A decrease in the demand for oranges, a substitute in consumption

Answer D

Correct. A decrease in the rental price for apple harvesting equipment will increase the productivity of workers and lower the cost of production, causing the supply curve for apples to shift to the right.

Practice AP Quetions 2.1, 2.2, 2.3, 2.4

20.



The graphs above show Mary's demand for hamburgers and Mark's demand for hamburgers. Suppose Mary and Mark are the only two consumers in the market.

Which of the following is a point on the market demand curve for hamburgers?

(A)

Price	Quantity
$2	12

(B)

Price	Quantity
$4	7

(C)

Price	Quantity
$6	6

(D)

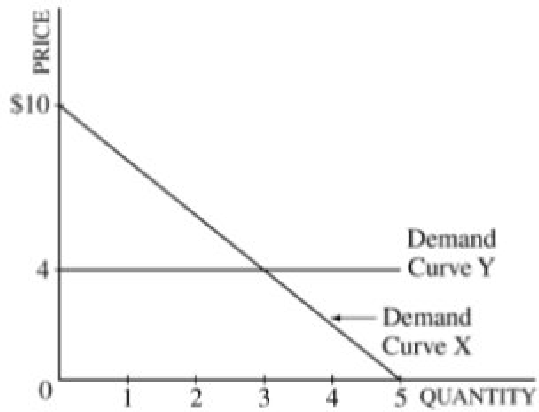
Price	Quantity
$8	4

(E)

Price	Quantity
$10	8

Practice AP Quetions 2.1, 2.2, 2.3, 2.4

21.



The demand curves X and Y are shown in the graph above.

Which of the following offers the most accurate comparison of the price elasticities of demand curves X and Y at a price of $4?

(A)

Demand Curve X	Demand Curve Y
Perfectly elastic	Perfectly inelastic

(B)

Demand Curve X	Demand Curve Y
Perfectly inelastic	Perfectly elastic

(C)

Demand Curve X	Demand Curve Y
Perfectly inelastic	Relatively elastic

(D)

Demand Curve X	Demand Curve Y
Relatively inelastic	Perfectly elastic

(E)

Demand Curve X	Demand Curve Y
Relatively elastic	Relatively inelastic

Practice AP Questions 2.1, 2.2, 2.3, 2.4

22. Which of the following statements about the price elasticity of demand is true?

(A) When demand is price inelastic, total revenue will decrease as price increases.

(B) When demand is price elastic, an increase in price will increase total revenue.

(C) Demand tends to be more elastic in the short run compared to the long run.

(D) As more close substitutes become available, demand tends to be more price elastic. ✓

(E) As a good becomes viewed as a necessity, demand becomes more price elastic.

Answer D

Correct. With more close substitutes, demand becomes more price elastic because buyers are more sensitive to price changes. A slight increase in a good’s price will induce the buyers to go for its substitutes.

23. If a severe drought destroys a significant portion of the peanut crop and peanut farmers' revenues increase, which of the following is true over the observed range of prices?

(A) The demand for peanuts must be unit elastic.

(B) The demand for peanuts must be price elastic.

(C) The demand for peanuts must be price inelastic. ✓

(D) The supply of peanuts must be price inelastic.

(E) The supply of peanuts must be price elastic.

Practice AP Questions 2.1, 2.2, 2.3, 2.4

24. Respond to all parts of the question.

Include correctly labeled diagrams, if useful or required, in explaining your answers. A correctly labeled diagram must have all axes and curves clearly labeled and must show directional changes. If the question prompts you to "Calculate," you must show how you arrived at your final answer.

A movie theater company obtains the following estimated elasticities of demand.

- The absolute value of the short-run price elasticity of demand for movie tickets is 0.85.
- The absolute value of the long-run price elasticity of demand for movie tickets is 3.2.
- The cross-price elasticity of demand for good X, another product sold by the theater, with respect to the price of movie tickets is -0.26.
- The income elasticity of demand for movie tickets is 0.75.

Answer each of the following by referring to the given elasticities.

(a) If the theater raises movie ticket prices by 10 percent, by what percentage and in what direction will the quantity demanded for movie tickets change in the short run?

(b) Explain why the short-run price elasticity of demand for movie tickets differs from the long-run price elasticity of demand for movie tickets.

(c) What will happen to total revenue from movie ticket sales in the long run if movie ticket prices increase? Explain using the relative percentage changes in price and quantity.

(d) Are movie tickets a normal good or an inferior good? Explain.

(e) Given the increase in the price of movie tickets in part (a), what would be the impact on the demand for good X? Use the appropriate graph for good X to illustrate your answer.

Part A

Select a point value to view scoring criteria, solutions, and/or examples and to score the response.

0	1 ✓

The response states that the quantity demanded will decrease by 8.5%.

Part B

Select a point value to view scoring criteria, solutions, and/or examples and to score the response.

0	1 ✓

The response explains that consumers have more substitutes for the good in the long run that are not available in the short run or there is more time to adjust in the long run.

Part C

Select a point value to view scoring criteria, solutions, and/or examples and to score the response.

Practice AP Quetions 2.1, 2.2, 2.3, 2.4

0	1

The response states that total revenue will decrease, and explains that demand is more elastic in the long run $(3.2 > 1)$ so the percentage decrease in quantity will be larger than the percentage increase in price.

Part D

Select a point value to view scoring criteria, solutions, and/or examples and to score the response.

0	1

The response states that movie tickets are a normal good and explains that a normal good is a good with a positive income elasticity of demand $(0.75 > 0)$.

Part E

Select a point value to view scoring criteria, solutions, and/or examples and to score the response.

0	1

The response includes a correctly labeled graph showing a leftward shift of the demand curve (see below).

Solution:

Practice AP Quetions 2.1, 2.2, 2.3, 2.4

[redacted]

Practice AP Questions 2.1, 2.2, 2.3, 2.4

25. Which of the following relationships among the price elasticity of demand, change in price, and change in total revenue is consistent?

(A)

Price Elasticity of Demand	Change in Price	Change in Total Revenue
Elastic	Increase	Increase

(B)

Price Elasticity of Demand	Change in Price	Change in Total Revenue
Elastic	Decrease	Decrease

(C)

Price Elasticity of Demand	Change in Price	Change in Total Revenue
Unit Elastic	Decrease	Decrease

(D)

Price Elasticity of Demand	Change in Price	Change in Total Revenue
Inelastic	Decrease	Increase

(E)

Price Elasticity of Demand	Change in Price	Change in Total Revenue
Inelastic	Decrease	Decrease

Answer E

Practice AP Questions 2.1, 2.2, 2.3, 2.4

Correct. When demand is inelastic, the price effect outweighs the quantity effect; that is, the percentage change in price exceeds the percentage change in quantity demanded. Thus, a decrease in price will result in a decrease in total revenue.

26. The price elasticity of demand for a product is 0.5. If the price of the product increases by 20 percent, which of the following will occur?

(A) The quantity demanded of the good will increase by 10%.

(B) The quantity demanded of the good will increase by 20%.

(C) The quantity demanded of the good will increase by 40%.

(D) The quantity demanded of the good will decrease by 10%. ✓

(E) The quantity demanded of the good will decrease by 40%.

Answer D

Correct. The quantity demanded will decrease by 10 percent. The price elasticity of demand illustrates the negative relationship between price and quantity demanded and is equal to the percentage change in quantity demanded divided by the percentage change in price. Therefore, an increase in price by 20 percent will result in a decrease in quantity demanded by 10 percent for an absolute value of a price elasticity of demand of 0.5.

27. Assume that the price of orange juice increases by 40 percent following a crop failure. If the quantity demanded falls by 10 percent, which of the following is true?

(A) The demand for orange juice is elastic.

(B) The price of grapefruit juice, a substitute good, will fall.

(C) The absolute value of the price elasticity of demand for orange juice is 4.

(D) The absolute value of the price elasticity of demand for orange juice is 0.25. ✓

(E) The absolute value of the price elasticity of demand for orange juice is 10.

Answer D

Correct. The absolute value of the price elasticity of demand is 0.25 and is equal to the percentage change in quantity demanded divided by the percentage change in price, $\frac{10\%}{40\%}$, or 0.25.

Practice AP Questions 2.1, 2.2, 2.3, 2.4

28. Assume a 10 percent increase in price increased the market quantity supplied by 20 percent. Which of the following is true?

(A) The value of the price elasticity of supply is 2. ✓

(B) The value of the price elasticity of supply is 0.5.

(C) Supply is price inelastic.

(D) Demand is price elastic.

(E) This price-quantity combination violates the law of supply.

Answer A

Correct. The price elasticity of supply measures the responsiveness of quantity supplied to a change in price and is calculated as the ratio of the percentage change in quantity supplied to the percentage change in price. The value of the price elasticity of supply is 2, which is calculated as 20 percent divided by 10 percent.

29. Assume that the price elasticity of supply for good Y is 0.5. If the price of good Y decreases by 30 percent, the quantity supplied of good Y will

(A) decrease by 60 percent

(B) decrease by 30 percent

(C) decrease by 15 percent ✓

(D) increase by 0.5 percent

(E) increase by 0.15 percent

Answer C

Correct. The price elasticity of supply measures the responsiveness of quantity supplied to a change in price and is calculated as the ratio of the percentage change in quantity supplied to the percentage change in price. Therefore, the percentage change in quantity supplied can be obtained by multiplying the price elasticity of supply (0.5) by the percentage change in the price (30 percent), which equals 15 percent.

Practice AP Quetions 2.1, 2.2, 2.3, 2.4

30. If the value of the price elasticity of supply is 3, which of the following is true?

(A) Supply is inelastic.

(B) A percentage increase in price will lead to a relatively smaller percentage increase in quantity supplied.

(C) The supply curve is downward sloping with respect to the price of output.

(D) A 10 percent decrease in price will decrease the quantity supplied by 30 percent.

(E) A 3 percent increase in price will decrease the quantity supplied by 10 percent.

Answer D

Correct. The price elasticity of supply measures the responsiveness of quantity supplied to a change in price and is calculated as the ratio of the percentage change in quantity supplied to the percentage change in price. When the magnitude of the price elasticity of supply is 3, a 10 percent decrease in price will lead to a 30 percent decrease in quantity supplied.

31. Which of the following would shift the short-run supply curve for strawberries?

(A) A decrease in the consumption of strawberries

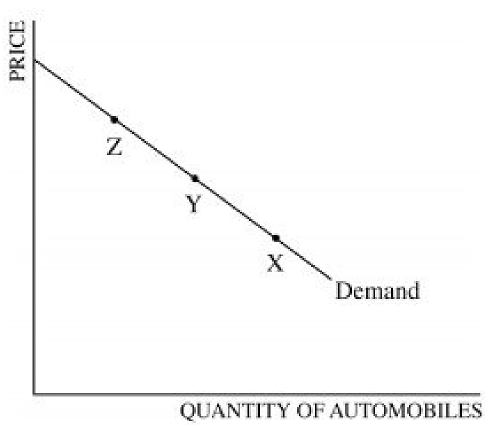
(B) An increase in the price of strawberries

(C) A strike by all farmworkers

(D) An increase in household incomes

(E) An announcement of a study that shows the health benefits of eating strawberries

32.



In the figure above, at which of the given points is demand most elastic?

(A) X

(B) Y

(C) Z

(D) The elasticity is the same for all points.

(E) The relative elasticity cannot be determined with the given information.

Practice AP Questions 2.1, 2.2, 2.3, 2.4

33. For an inferior good, an increase in consumer income will cause

(A) the demand curve to shift to the left ✓

(B) the demand curve to shift to the right

(C) the short-run supply curve to shift to the right

(D) the long-run supply curve to shift to the right

(E) new firms to enter the market in the long run

34. For a normal good, the income effect of a price change refers to the change in the consumption of the good that occurs because of the change in

(A) consumers' purchasing power ✓

(B) the demand for a substitute good

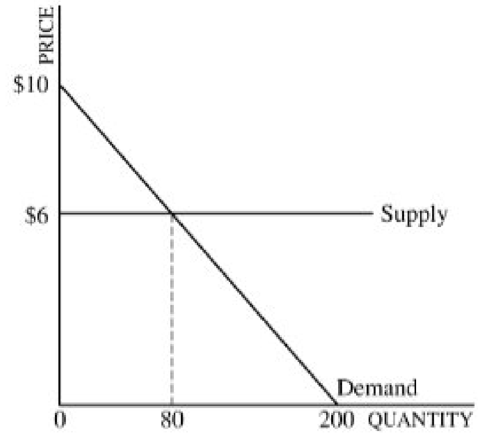
(C) the supply of the good

(D) relative price

(E) marginal utility

Practice AP Questions 2.1, 2.2, 2.3, 2.4

35. The market supply and demand for a product are shown in the diagram below.



Respond to all parts of the question.

a. Is the price elasticity of supply less than one, equal to one, or greater than one? Explain.

b. Calculate consumer surplus at the equilibrium price. Show your work.

c. Now suppose the government imposes a per-unit tax of $1 on producers.

i. What happens to total revenue received by producers after they pay the tax to the government? Explain.

ii. Will producer surplus increase, decrease, or stay the same?

iii. Will total surplus increase, decrease, or stay the same? Explain.

Part A

1 point is earned for: stating that the price elasticity of supply is greater than one and for explaining that the supply curve is horizontal **OR** the price elasticity of supply is infinite **OR** the supply is perfectly elastic.

0	1

The student response earns all of the following points:

1 point is earned for: stating that the price elasticity of supply is greater than one and for explaining that the supply curve is horizontal **OR** the price elasticity of supply is infinite **OR** the supply is perfectly elastic.

Part B

1 point is earned for: correctly calculating the consumer surplus and showing the work as 1/2 × 80 × 4 =160.

0	1

The student response earns all of the following points:

Practice AP Questions 2.1, 2.2, 2.3, 2.4

1 point is earned for: correctly calculating the consumer surplus and showing the work as $1/2 \times 80 \times 4 = 160$.

Part C

1 point is earned for: stating that the total revenue will decrease and explaining that the quantity will decrease **OR** the percentage change of quantity demanded is greater than the percentage change in price **OR** demand is elastic in this price range.

1 point is earned for: stating that producer surplus will stay the same **OR** remain zero.

1 point is earned for: stating that total surplus will decrease and for explaining that the quantity decreases **OR** there is now deadweight loss after the tax is imposed **OR** the consumer surplus decreases by more than what is transferred to the government and producer surplus stays the same.

0	1	2	3 ✓

The student response earns all of the following points:

1 point is earned for: stating that the total revenue will decrease and explaining that the quantity will decrease **OR** the percentage change of quantity demanded is greater than the percentage change in price **OR** demand is elastic in this price range.

1 point is earned for: stating that producer surplus will stay the same **OR** remain zero.

1 point is earned for: stating that total surplus will decrease and for explaining that the quantity decreases **OR** there is now deadweight loss after the tax is imposed **OR** the consumer surplus decreases by more than what is transferred to the government and producer surplus stays the same.

36. If the demand for insulin is price inelastic, a 5 percent increase in the price of insulin will

(A) have no effect on the total revenue of insulin producers

(B) increase the total revenue of insulin producers ✓

(C) decrease the total revenue of insulin producers

(D) decrease the total spending on insulin by consumers

(E) cause the demand for insulin to be less elastic

37. If the demand for product X is perfectly elastic and the supply of product X decreases, which of the following will occur in the market for X ?

(A) Total revenue will increase.

(B) Total revenue will decrease. ✓

(C) Total revenue will remain the same.

(D) Quantity demanded will exceed quantity supplied.

(E) Quantity supplied will exceed quantity demanded.

Practice AP Quetions 2.1, 2.2, 2.3, 2.4

38. Suppose that the demand for vegetables is price elastic. If the price of vegetables increases by 5 percent, the quantity of vegetables demanded would

(A) increase by 5 percent

(B) increase by more than 5 percent

(C) increase by less than 5 percent

(D) decrease by more than 5 percent ✓

(E) decrease by less than 5 percent

39. Which of the following helps explain why the demand curve for a normal good is downward sloping?

(A) The income and substitution effects move the quantity demanded in the same direction. ✓

(B) The income effect moves the quantity demanded in the opposite direction of the substitution effect.

(C) The income effect dominates the substitution effect.

(D) The substitution effect dominates the income effect.

(E) With an increase in income, the consumer decreases consumption of the good.

40. Which of the following will increase the demand for pizza, a normal good?

(A) An increase in the cost of producing pizza

(B) A decrease in the price of pizza

(C) An increase in the price of a complementary product

(D) An increase in consumers' income ✓

(E) An increase in the number of restaurants selling pizza

41. Which of the following will cause the supply curve for shoes to shift to the right?

(A) An increase in the price of socks, assuming that shoes and socks are complements

(B) A decrease in the price of sandals, assuming that shoes and sandals are substitutes

(C) An increase in the wages of shoe workers

(D) An increase in the number of firms producing shoes ✓

(E) A decrease in the income of consumers, assuming that shoes are normal goods

42. Which of the following will cause the demand curve for good X to shift to the right?

(A) An increase in the price of good Z, a complement to good X

(B) An increase in the price of good Y, a substitute for good X ✓

(C) An increase in the consumer's income, if good X is an inferior good

(D) A decrease in the price of good X

(E) An increase in the supply of good X

Practice AP Questions 2.1, 2.2, 2.3, 2.4

43. Which of the following would cause an increase in the supply of tacos in the short run?

(A) The price of tacos decreases.

(B) The demand for tacos increases.

(C) The price of beef, an input in the production of tacos, decreases. ✓

(D) The price of guacamole, a complement in consumption for tacos, decreases.

(E) The price of burritos, a substitute in consumption for tacos, decreases.

Answer C

Correct. A decrease in the price of an input in the production of a good decreases the cost of producing that good, which increases the supply of the good in the short run.

44. Which of the following changes will lead to an increase in the supply of good X?

(A) An increase in the price of good X

(B) An increase in the wages of labor used to produce good X

(C) A decrease in the price of energy, a key input to the production of good X ✓

(D) An increase in the demand for good X

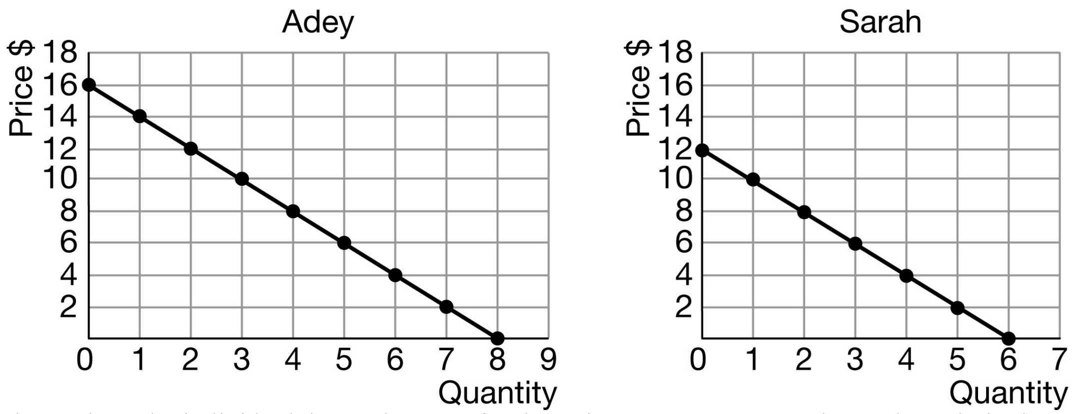
(E) A decrease in the number of sellers of good X

Answer C

Correct. A decrease in input prices (energy prices) decreases the cost of production and shifts the supply curve to the right. As a result, more of the good will be offered for sale at each possible price for the good.

Practice AP Questions 2.1, 2.2, 2.3, 2.4

45.



The graphs above show the individual demand curves for the only two consumers, Adey and Sarah, in the market for popcorn.

As the price of popcorn decreases from $12 to $6, how does the quantity demanded change along the market demand curve?

(A) It increases from 2 to 4 units.

(B) It increases from 2 to 5 units.

(C) It increases from 2 to 8 units.

(D) It increases from 0 to 14 units.

(E) It increases from 8 to 14 units.

Answer C

Correct. At $12, Adey buys 2 units and Sarah buys 0 units for a total quantity of 2 units in the market. At $6, Adey buys 5 units and Sarah buys 3 units for a total market quantity of 8 units. Thus, when the price decreases from $12 to $6, the quantity demanded along the market demand curve increases from 2 to 8 units.

46. In which of the following cases would a firm's total revenue increase?

(A) Price increases and demand is elastic.

(B) Price decreases and supply is inelastic.

(C) Price decreases and demand is elastic.

(D) Price decreases and supply is elastic.

(E) Price decreases and demand is inelastic.

Practice AP Questions 2.1, 2.2, 2.3, 2.4

47. Which of the following best describes the law of demand?

(A) When income increases, the demand for goods increases.

(B) When the price of a good decreases, the demand for the good increases.

(C) When the price of a good decreases, the quantity demanded of the good decreases.

(D) When the price of a good increases, the quantity demanded of the good decreases. ✓

(E) When the demand for a good increases, consumers' willingness and ability to buy the good increases.

Answer D

Correct. The law of demand describes the negative relationship between the price and quantity demanded. When the price of a good increases, there will be an upward movement along the demand curve for the good, resulting in a decrease in the quantity demanded of the good.

48. Which of the following best describes the law of demand?

(A) The price of a good increases when the demand for the good increases.

(B) The price of a good decreases when the supply of the good decreases.

(C) When the price of a good increases, its demand decreases.

(D) When the price of a good decreases, its quantity demanded increases. ✓

(E) Demand creates its own supply.

49. Which of the following explains why a decrease in the price of a normal good will lead to an increase in the quantity demanded of the good?

(A) A lower price will increase consumers' purchasing power. ✓

(B) A lower price will increase consumers' marginal utility.

(C) A lower price will increase demand for the good.

(D) A lower price will increase demand for substitute goods.

(E) A lower price will decrease demand for complementary goods.

Practice AP Questions 2.1, 2.2, 2.3, 2.4

50. Which of the following statements about the market supply curve is true?

(A) An increase in input prices will shift the market supply curve to the right.

(B) At each price, a horizontal summation of the quantity supplied by each firm will yield the market supply curve.

(C) At each quantity supplied, a vertical summation of the price set by each firm will yield the market supply curve.

(D) A decrease in the price will shift the market supply curve to the left.

(E) The law of supply states that the market supply curve may shift right, shift left, or remain the same as the price increases.

Answer B

Correct. The market supply is the total quantity of a good or service all producers are willing to provide at the prevailing set of relative prices during a defined period of time. Therefore, the market supply curve is derived by the horizontal summation of the quantity supplied by each firm in the market at each price.

51. Which of the following is true about the market supply curve for a good?

(A) It is derived from the summation of the marginal revenue product of labor hired by individual firms.

(B) It is derived from the summation of the marginal product of labor hired by individual firms.

(C) It is derived from the summation of individual firms' quantity supplied at each price.

(D) It lies above the market demand curve at quantities less than the market equilibrium quantity.

(E) It lies below the market demand curve at quantities greater than the market equilibrium quantity.

Answer C

Correct. The market supply curve for a good is derived by adding the quantity supplied by each supplier of a good at each available price.

Practice AP Questions 2.1, 2.2, 2.3, 2.4

52. The market for bottled mineral water is perfectly competitive. After the discovery of several new sources of mineral water, the price of bottled mineral water decreases. The substitution effect of the price decrease implies an increase in which of the following?

(A) The supply of bottled mineral water

(B) The quantity demanded of bottled mineral water ✓

(C) The demand for bottled mineral water

(D) The demand for bottled purified water, a substitute in consumption

(E) The total revenue of firms selling bottled mineral water

Answer B

Correct. The substitution effect indicates that, as the price of a good (such as bottled mineral water) decreases, consumers will substitute into greater consumption of the good, increasing the quantity demanded of the good.

53. Which of the following would cause the supply curve for notebook computers to shift to the right?

(A) An increase in the price of notebook computers

(B) An increase in the number of firms producing notebook computers ✓

(C) An increase in the wages of workers in the notebook-computer industry

(D) A decrease in the price of notebook computers

(E) A decrease in the supply of notebook computers

54. Which of the following will tend to make the demand for a product more elastic?

(A) New firms which produce similar products enter the industry. ✓

(B) A change in taste and preferences makes the product more desirable.

(C) The product is necessary for use with a complement.

(D) Production of the product is protected by a patent.

(E) Production cost of the product decreases.

55. One reason consumers typically increase the quantity of a good they purchase when the price of the good decreases is that

(A) the marginal utility of the good increases

(B) consumers' purchasing power increases ✓

(C) consumers increase their purchases of substitute items

(D) consumers increase their purchases of complementary items

(E) the demand for the good increases

56. The absolute value of the price elasticity of demand for a good increases when

(A) the good has fewer substitutes

(B) the good becomes a necessity

(C) consumers spend greater portion of their budget on the good ✓

(D) the price of an input used to produce the good increases

(E) the good must be purchased immediately

Practice AP Questions 2.1, 2.2, 2.3, 2.4

57. The quantity of peanuts supplied increased from 40 tons per week to 60 tons per week when the price of peanuts increased from $4 per ton to $5 per ton. The price elasticity of supply for peanuts over this price range is

(A) elastic ✓

(B) inelastic

(C) unit elastic

(D) perfectly elastic

(E) perfectly inelastic

58. Individual private property rights provide people incentives to

(A) meet societal goals rather than pursue their own self-interest

(B) produce goods and services regardless of market demand

(C) achieve equitable distribution of goods and services through competitive markets

(D) focus only on benefits without regard to costs

(E) produce goods and services that are valued in markets ✓

Answer E

Correct. Individual private property rights provide people incentives to use available resources to produce goods and services that will allow them to profit by selling their goods and services to consumers who value them. Market prices provide the incentive and the signal regarding what is valued.

59. Which of the following will most likely happen in the market for good X if the price of good X decreases?

(A) The supply of good X will decrease.

(B) The demand for good X will increase.

(C) The quantity demanded for good X will increase. ✓

(D) The demand will decrease and the supply will increase.

(E) The quantity supplied for good X will increase.

Practice AP Quetions 2.1, 2.2, 2.3, 2.4

60. An increase in the supply of good X resulted in an increase in the price and quantity of good Y. It can be concluded that good Y is

(A) an inferior good

(B) a luxury good

(C) a normal good

(D) a substitute for good X

(E) a complement for good X

Answer E

Correct. Goods are complements of one another if a decrease in the price of one good leads to an increase in demand for the other good. An increase in the supply of good X will cause the price of good X to decrease. The result of this change is an increase in the price and quantity of good Y, which would be caused by an increase in the demand for good Y. Therefore, goods X and Y are complements.

Practice AP Quetions 2.1, 2.2, 2.3, 2.4

61. Shrimp and chicken are substitute inputs in the production of frozen meals. Both shrimp and chicken are sold in perfectly competitive markets. If the government imposes a per-unit tax on shrimp, how will the demand for chicken and the equilibrium price of frozen meals be affected in the short run?

Practice AP Quetions 2.1, 2.2, 2.3, 2.4

(A)

Demand for Chicken	Equilibrium Price of Frozen Meals
Increase	Increase

(B)

Demand for Chicken	Equilibrium Price of Frozen Meals
Increase	Decrease

(C)

Demand for Chicken	Equilibrium Price of Frozen Meals
Increase	No change

(D)

Demand for Chicken	Equilibrium Price of Frozen Meals
Decrease	Increase

(E)

Demand for Chicken	Equilibrium Price of Frozen Meals
Decrease	Decrease

Practice AP Quetions 2.1, 2.2, 2.3, 2.4

Answer A

Correct. If the government imposes a per-unit tax on shrimp, the price of shrimp will increase. When the price of shrimp (which is a substitute for chicken in the production of frozen meals) increases, the demand for chicken increases. As the demand for chicken increases, the price of chicken also increases. As a result, since both inputs in the production of frozen meals have increased in price, the supply curve of frozen meals will shift to the left, resulting in an increase in the equilibrium price of frozen meals.

62. Assume unusually cold weather destroys some of a nation's strawberry crop, which results in an increase in total revenue for strawberry producers. Which of the following must be true?

(A) The market supply of strawberries is elastic.

(B) The market supply of strawberries is inelastic.

(C) The market demand for strawberries is elastic.

(D) The market demand for strawberries is unit elastic.

(E) The market demand for strawberries is inelastic. ✓

Answer E

Correct. When unusually cold weather causes a leftward shift of the supply curve for strawberries, the price of strawberries increases, and the quantity of strawberries decreases. When price elasticity of demand is inelastic, the percentage decrease in quantity demanded is less than the percentage increase in price; this causes an increase in total revenue, since total revenue = price × quantity.

63. Which of the following is true of the substitution effect of an increase in the price of a normal good?

(A) It works to offset the income effect.

(B) It works to reinforce the income effect. ✓

(C) It is less than the income effect.

(D) It causes an increase in the quantity demanded of the good.

(E) It causes an increase in the demand for the good.

Practice AP Questions 2.1, 2.2, 2.3, 2.4

64. Assume that good X is a normal good. If the price of good X increases, what will happen?

(A) The substitution and income effects will both lead to more of good X being purchased.

(B) The substitution and income effects will both lead to less of good X being purchased. ✓

(C) The substitution effect will lead to more of good X being purchased, while the income effect will lead to less of good X being purchased.

(D) The substitution effect will lead to less of good X being purchased, while the income effect will lead to more of good X being purchased.

(E) There will be no income effect because only the price of good X has changed.

Answer B

Correct. When the price of a good changes, there is both a substitution effect and an income effect. For a normal good, both the substitution effect and the income effect will lead to less of good X being purchased. The substitution effect refers to the consumer's incentive to substitute higher priced goods with lower priced goods, resulting in a decrease in quantity demanded caused by the increase in the price of a normal good. The income effect refers to the decrease in a consumer's purchasing power caused by an increase in the price of a normal good.

65. Which of the following occurs as a result of the substitution effect of an increase in the price of a normal good?

(A) The demand for the good decreases.

(B) The demand for the complementary good increases.

(C) The demand for the good becomes more elastic.

(D) The quantity demanded of the substitute good decreases.

(E) The quantity demanded of the good decreases. ✓

Answer E

Correct. The substitution effect is one of the factors that explains why the demand curve slopes downward. It explains a movement down along the demand curve for a normal good when the price of the good increases. When the price of a normal good increases, buyers will substitute the higher-priced good for a lesser-priced substitute, and therefore buyers will decrease the quantity demanded of the good whose price has increased.

Practice AP Questions 2.1, 2.2, 2.3, 2.4

66. Which of the following statements relating to supply is true?

(A) An increase in an input price will lead to an increase in supply.

(B) An increase in the price of a good will lead to an increase in the supply of the good.

(C) A decrease in consumers' income will lead to a decrease in the supply of the good.

(D) A decrease in the price of a good will lead to a decrease in the quantity supplied of the good.

(E) A decrease in the price of a substitute good in production will lead to a decrease in the supply of another substitute good.

Answer D

Correct. This describes the law of supply, which describes a movement up along a given supply curve—a decrease in price causes a decrease in the quantity supplied of the good.

Practice AP Questions 2.1, 2.2, 2.3, 2.4

67. The table shows the market supply schedule for a good.

Price ($)	**Quantity Supplied**
12	60
14	75
16	90
18	120

When the price changes from $14to16$, the supply in this range is

(A) elastic ✓

(B) inelastic

(C) unit elastic

(D) perfectly elastic

(E) perfectly inelastic

Answer A

Correct. In this example, an increase in price from $14 to $16 resulted in an increase in quantity supplied from 75 units to 90 units. Price elasticity of supply is equal to the percentage change in the quantity supplied $\left(\frac{90-75}{75} \times 100 = 20\%\right)$ divided by the percentage change in price $\left(\frac{16-14}{14} \times 100 = 14.29\%\right)$, so the elasticity coefficient is equal to $\frac{20\%}{14.29\%} = 1.4$. Since the absolute value of the price elasticity of supply coefficient is greater than 1, supply is elastic over this range of the supply curve.

Practice AP Questions 2.1, 2.2, 2.3, 2.4

68. Theresa consumes both bagels and toy cars.

Quantity of Bagels	Marginal Utility from Bagels (utils)	Quantity of Toy Cars	Marginal Utility from Toy Cars (utils)
1	8	1	10
2	7	2	8
3	6	3	6
4	5	4	4
5	4	5	3
6	3	6	2

a. The table above shows Theresa's marginal utility from bagels and toy cars.

i. What is her total utility from purchasing three toy cars?

ii. Theresa's weekly income is $11, priceofabagelis2$, and the price of a toy car is $1. What quantity of bagels and toy cars will maximize Theresa's utility if she spends her entire weekly income on bagels and toy cars? Explain your answer using marginal analysis.

b. Assume that the price of wheat, an input for the production of bagels, increases. Will Theresa's demand for bagels increase, decrease, or not change? Explain.

c. Suppose that Theresa's income elasticity for bagels is -0.2.Does the value of Theresa's income elasticity indicate that bagels are normal goods, inferior goods, substitutes, or complements?

d. Suppose that when the price of toy cars increases by 10 percent, Theresa buys 5 percent fewer toy cars and 4 percent less of a different toy, blocks. Calculate the cross-price elasticity for toy cars and blocks and indicate if it is positive or negative.

Respond to all parts of the question.

Part A

3 Points

- One point is earned for determining the total utility, which is 24.
- One point is earned for stating that three bagels and five toy cars will be purchased.
- One point is earned for explaining that with this combination of bagels and toys, the marginal utility per dollar spent on bagels equals the marginal utility per dollar spent on toy cars.

0	1	2	3

The student earns all of the following points:

- One point is earned for determining the total utility, which is 24.
- One point is earned for stating that three bagels and five toy cars will be purchased.
- One point is earned for explaining that with this combination of bagels and toys, the marginal utility per dollar spent on bagels equals the marginal utility per dollar spent on toy cars.

Practice AP Quetions 2.1, 2.2, 2.3, 2.4

Part B

One point is earned for stating that Theresa's demand for bagels will not change because the increase in the price of wheat will affect the supply of bagels, not the demand.

0	1 ✓

The student earns all of the following points:

One point is earned for stating that Theresa's demand for bagels will not change because the increase in the price of wheat will affect the supply of bagels, not the demand.

Part C

One point is earned for stating that bagels are inferior goods.

0	1 ✓

The student earns all of the following points:

One point is earned for stating that bagels are inferior goods.

Part D

One point is earned for calculating the cross-price elasticity for toy cars and blocks: -0.04/0.10 = -0.4

0	1 ✓

The student earns all of the following points:

One point is earned for calculating the cross-price elasticity for toy cars and blocks: -0.04/0.10 = -0.4

Practice AP Questions 2.1, 2.2, 2.3, 2.4

69. The table below lists the monthly individual demand schedules for text messages for the only three buyers in the market: Allison, Bill, and Chang.

Price per Text Message	Text Messages Demanded by		
	Allison	Bill	Chang
4¢	500	400	360
8¢	350	300	280
12¢	200	200	200
16¢	50	100	120
20¢	0	0	40

Which of the following combinations of price and quantity lies on the market demand curve?

(A)

Price	Quantity
4¢	1,000

(B)

Price	Quantity
8¢	350

(C)

Price	Quantity
12¢	200

(D)

Price	Quantity
16¢	270

(E)

Price	Quantity
20¢	0

Practice AP Questions 2.1, 2.2, 2.3, 2.4

70. Utility maximization is a fundamental assumption in consumer theory.

a. Explain what is meant by diminishing marginal utility.

b. Assume that a consumer buys only two goods:X and Y. What is the utility-maximizing decision rule for the consumer in allocating total income to good X and good Y?

c. Assume that a utility- maximizing consumer is spending all of her income on the two goods, X and Y. The price per unit of good X is $2, andthepriceperunitofgoodYis3$. The marginal utility of the last unit of good Y consumed is 15. What is the marginal utility of the last unit of good X consumed?

d. Assume that good X is a normal good and good Y is an inferior good. Assume that the consumer's income does not change. Assume that the price of good X increases.

i. Indicate how the substitution effect of the increase in the price of good X will affect purchases of

1. good X

2. good Y

ii. Indicate how the income effect of the increase in the price of good X will affect purchases of

1. good X

2. good Y

Respond to all parts of the question.

Part A

1 Point

- One point is earned for stating that as more of a good is consumed, utility increases at a diminishing rate.

0	1

The student earns all of the following points:

- One point is earned for stating that as more of a good is consumed, utility increases at a diminishing rate.

Part B

1 Point

- One point is earned for stating that MUx/Px = MUy/Py.

0	1

The student earns all of the following points:

- One point is earned for stating that MUx/Px = MUy/Py.

Practice AP Quetions 2.1, 2.2, 2.3, 2.4

Part C

1 Point

- One point is earned for stating that MUx =10. (10/$2 = 15/3$)

0	1

The student earns all of the following points:

- One point is earned for stating that MUx = 10. (10/$2 = 15/3$)

Part D

4 Points

- One point is earned for stating less X.
- One point is earned for stating more Y.
- One point is earned for stating less X.
- One point is earned for stating more Y.

0	1	2	3	4

The student earns all of the following points:

- One point is earned for stating less X.
- One point is earned for stating more Y.
- One point is earned for stating less X.
- One point is earned for stating more Y.

Practice AP Questions 2.1, 2.2, 2.3, 2.4

71. Avocado production requires land to grow avocado trees and workers to pick the avocados. Which of the following is most likely to occur if a binding minimum wageprice floor on wages is set in the labor market of avocado-farming workers?

(A) Supply of avocados will decrease.

(B) Demand for avocados will decrease.

(C) There will be a surplus of avocados.

(D) Avocado producers will hire more workers.

(E) The price of land used to grow avocados will increase.

Answer A

Correct. A binding minimum wage set above the equilibrium wage in the labor market of avocado-farming workers will increase the cost of production, which causes the supply of avocados to decrease.

Practice AP Questions 2.1, 2.2, 2.3, 2.4

72. Include correctly labeled diagrams, if useful or required, in explaining your answers. A correctly labeled diagram must have all axes and curves clearly labeled and must show directional changes. If the question prompts you to “Calculate,” you must show how you arrived at your final answer.

Assume the market for good Y is in equilibrium.

(a) Draw a correctly labeled demand and supply graph for good Y. Label the equilibrium price P_e and the equilibrium quantity Q_e.

(b) Assume the government imposes a per-unit tax on good Y. On your graph in part (a), show each of the following after the tax has been implemented.

(i) The equilibrium price labeled P_N and the equilibrium quantity labeled Q_N

(ii) The area representing the <u>change</u> in consumer surplus, shaded completely

(c) Will the price paid by consumers increase by the same amount as the tax? Explain.

(d) Will the loss in consumer and producer surplus be greater than, less than, or equal to the tax revenue collected by the government? Explain.

Respond to all parts of the question.

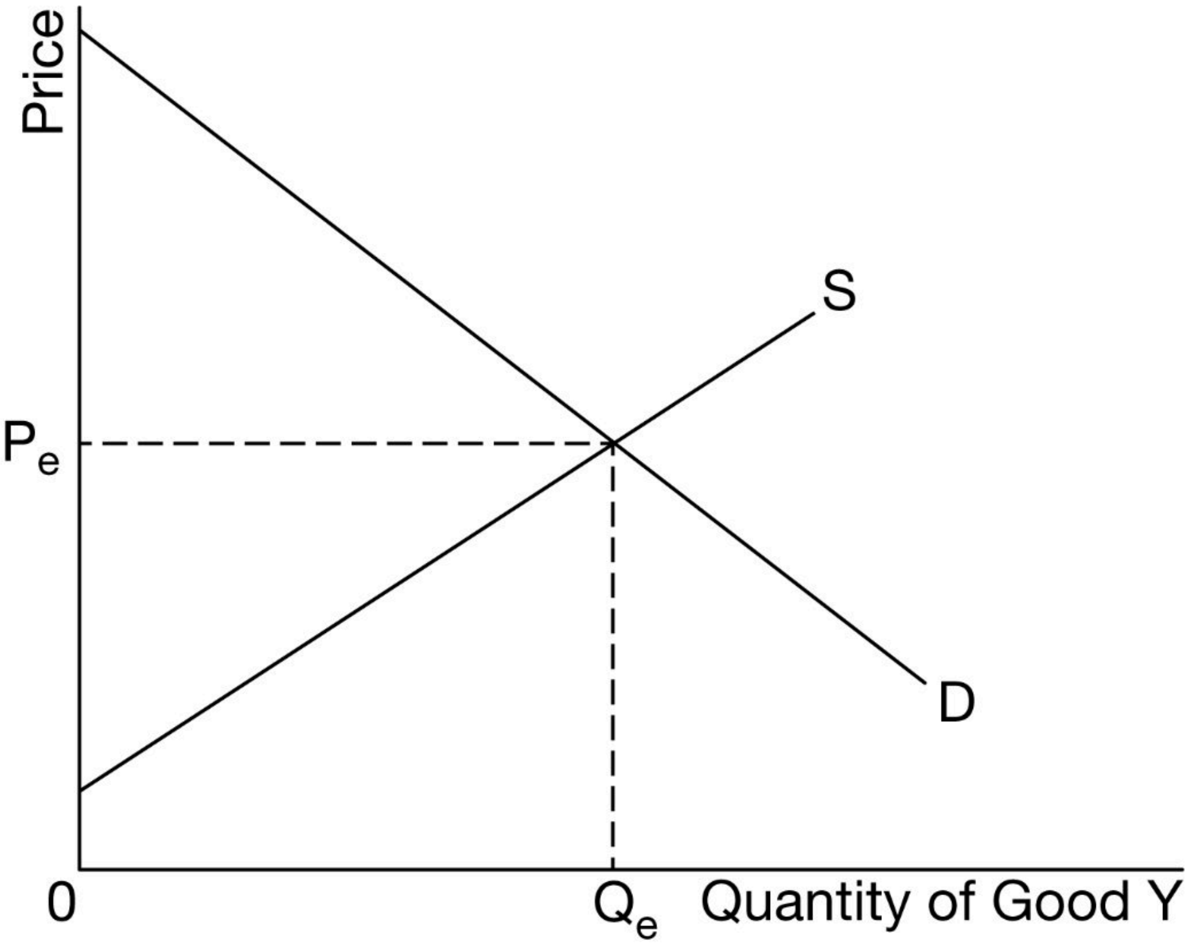
Part (a)

Select a point value to view scoring criteria, solutions, and/or examples and to score the response.

0	1 ✓

The response does show a correctly labeled graph of the market for good Y with the equilibrium price labeled P_e and the equilibrium quantity labeled Q_e .

Practice AP Questions 2.1, 2.2, 2.3, 2.4



Part (b)

Select a point value to view scoring criteria, solutions, and/or examples and to score the response.

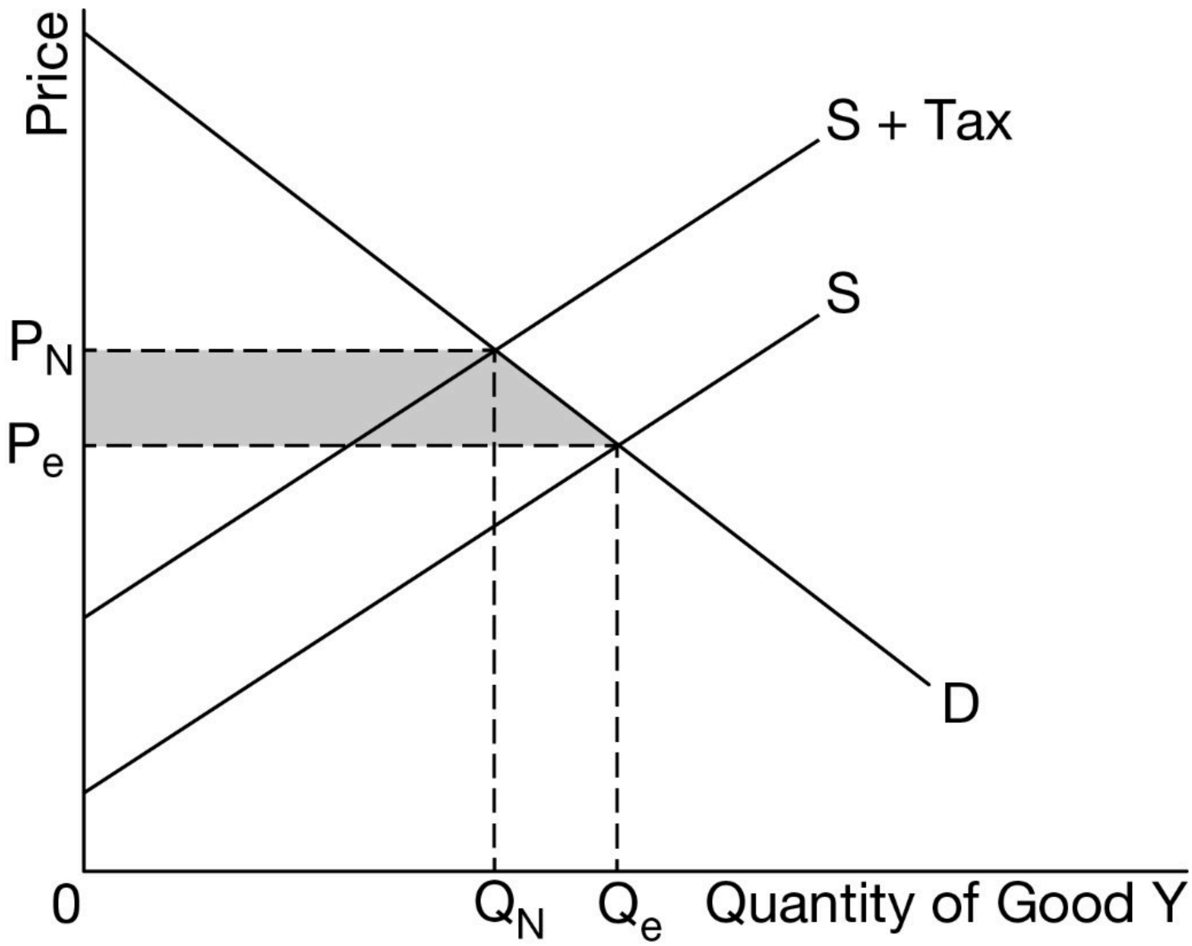
0	1	2

The response accurately includes both of the criteria below.

- ☐ The new equilibrium price labeled P_N and the new equilibrium quantity labeled Q_N
- ☐ The area representing the change in consumer surplus, shaded completely

Solution

Practice AP Quetions 2.1, 2.2, 2.3, 2.4



Part (c)

Select a point value to view scoring criteria, solutions, and/or examples and to score the response.

The response must both state that the price will increase by less than the amount of the tax and explain why in order to receive the point.

0	1

The response states that the price will increase by less than the amount of the tax and explains that, unless demand is perfectly inelastic, producers will not be able to raise price by the amount of the tax.

Part (d)

Select a point value to view scoring criteria, solutions, and/or examples and to score the response.

The response must both state that the loss in consumer surplus and producer surplus will be greater than the tax revenue collected by the government and explain why in order to receive the point.

Practice AP Quetions 2.1, 2.2, 2.3, 2.4

0	1

The response states that the loss in consumer and producer surplus will be greater than the tax revenue collected by the government and explains that the tax reduces the quantity exchanged in the market relative to the unregulated market equilibrium quantity, resulting in a deadweight loss which is equal to the decrease in the total economic surplus.

Practice AP Questions 2.1, 2.2, 2.3, 2.4

73. Sasha is a utility-maximizing consumer who spends all of her income on peanuts and bananas, both of which are normal goods.

a. Assume that the last unit of peanuts consumed increased Sasha's total utility from 40 utils to 48 utils and that the last unit of bananas consumed increased her total utility from 52 utils to 56 utils.

i. If the price of a unit of peanuts is $1 and Sasha is maximizing utility, calculate the price of a unit of bananas.

ii. If the price of a unit of peanuts increases and the price of a unit of bananas remains unchanged from the price you determined in part (a)(i), how will Sasha's purchase of peanuts change?

b. Assume that the cross-price elasticity of demand between peanuts and bananas is positive. A widespread disease has destroyed the banana crop. What will happen to the equilibrium price and quantity of peanuts in the short run? Explain.

c. Assume that the price of bananas increases.

i. Will the substitution effect increase, decrease, or have no effect on the quantity of bananas demanded?

ii. What happens to Sasha's real income?

Part A

2 points:

- One point is earned for calculating the price of a unit of bananas, $4/8 = 0.50$.
- One point is earned for stating that Sasha will purchase fewer peanuts.

0	1	2 ✓

Student receives 2/2 point(s)

2 points:

- One point is earned for calculating the price of a unit of bananas, $4/8 = 0.50$.
- One point is earned for stating that Sasha will purchase fewer peanuts.

Part B

2 points:

- One point is earned for stating that the equilibrium price and quantity of peanuts will both increase.
- One point is earned for explaining that peanuts and bananas are substitutes, and since the price of bananas increased, it would cause the demand for peanuts to increase.

0	1	2 ✓

Practice AP Questions 2.1, 2.2, 2.3, 2.4

Student receives 2/2 point(s)

2 points:

- One point is earned for stating that the equilibrium price and quantity of peanuts will both increase.
- One point is earned for explaining that peanuts and bananas are substitutes, and since the price of bananas increased, it would cause the demand for peanuts to increase.

Part C

2 points:

- One point is earned for stating that the substitution effect causes the quantity of bananas demanded to decrease.
- One point is earned for stating that Sasha's real income will decrease.

0	1	2 ✓

Student receives 2/2 point(s)

2 points:

- One point is earned for stating that the substitution effect causes the quantity of bananas demanded to decrease.
- One point is earned for stating that Sasha's real income will decrease.