Package: Test Bank
Title: Microeconomics: Theory and Application, 13e
Chapter Number: 2

Question Type: Multiple Choice

1. A rise in the quantity demanded of lemons can be attributed to:

a. a leftward shift in the supply curve of lemons.
b. a lower price of lemons.
c. a decline in the number of people drinking lemonade.
d. an increase in the price of lime juice.

Answer: B

Difficulty Level: Easy
Section Reference: Demand and Supply Curves
Learning Objective: Understand how the behavior of buyers and sellers can be characterized through demand and supply curves.

2. The law of demand states that people:

a. prefer high-quality goods to low-quality goods.
b. buy larger quantities of a good at lower prices.
c. prefer more to less.
d. are willing to pay a higher price only for goods they need.

Answer: B

Difficulty Level: Easy
Section Reference: Demand and Supply Curves
Learning Objective: Understand how the behavior of buyers and sellers can be characterized through demand and supply curves.

3. Which of the following statements is *not* true about a demand curve?

a. The demand curve shows the maximum price consumers will pay for various quantities of a product.
b. Movements along a demand curve reflect changes in consumers' tastes.
c. The demand curve shows the quantities consumers will purchase at various prices.
d. Movements along a demand curve reflect consumers' response to price changes.

Answer: B

Difficulty Level: Easy
Section Reference: Demand and Supply Curves
Learning Objective: Understand how the behavior of buyers and sellers can be characterized through demand and supply curves.

4. Which of the following is a valid interpretation of the demand curve?

a. The demand curve identifies the quantities purchased at various prices.
b. The demand curve identifies the taste and preference of the consumers.
c. The demand curve identifies the consumer's income level.
d. The demand curve identifies the availability of substitute goods.

Answer: A

Difficulty Level: Medium
Section Reference: Demand and Supply Curves
Learning Objective: Understand how the behavior of buyers and sellers can be characterized through demand and supply curves.

5. Which of the following violates the law of demand?

a. After receiving an annual raise of $10,000, a young man buys more steak than before, even though the price of steak increased by 5 percent.
b. A woman with a small baby continues to purchase diapers even after the price of diapers went up.
c. After the price of bowling increases, a woman increases her frequency of bowling.
d. Despite butter being more expensive than margarine, a woman buys more butter after the price of margarine (a close substitute) increases.

Answer: C

Difficulty Level: Medium
Section Reference: Demand and Supply Curves
Learning Objective: Understand how the behavior of buyers and sellers can be characterized through demand and supply curves.

6. The negative slope of the demand curve indicates that:

a. more consumers are willing to buy the good as its supply falls.
b. consumption increases as the price falls.
c. consumption is a positive function of income.
d. less consumers are willing to buy the good as the price falls.

Answer: B

Difficulty Level: Medium
Section Reference: Demand and Supply Curves
Learning Objective: Understand how the behavior of buyers and sellers can be characterized through demand and supply curves.

7. The demand curve for water is downward sloping, indicating that:

a. there are an increasing number of reservoirs.
b. more consumers enter the market as the price falls.
c. there is more consumption per person at lower prices.
d. the production costs for water are very low.

Answer: C

Difficulty Level: Medium
Section Reference: Demand and Supply Curves
Learning Objective: Understand how the behavior of buyers and sellers can be characterized through demand and supply curves.

8. Which one of the following is held constant along a given demand curve?

a. The consumers' income
b. The price of the good the demand curve represents
c. The cost of producing the good the demand curve represents
d. The quantity of the good the demand curve represents

Answer: A

Difficulty Level: Easy
Section Reference: Demand and Supply Curves
Learning Objective: Understand how the behavior of buyers and sellers can be characterized through demand and supply curves.

9. Consider two goods, X and Y. If the price of Y increases and, as a consequence, the demand curve for X shifts to the left, then:

a. X and Y are substitutes.
b. X and Y are complements.
c. X and Y are unrelated.
d. X and Y are inferior goods.

Answer: B

Difficulty Level: Medium
Section Reference: Demand and Supply Curves
Learning Objective: Understand how the behavior of buyers and sellers can be characterized through demand and supply curves.

10. A shift in the consumer's demand for a good X *cannot* result from a change in the:

a. price of a substitute for good X.
b. amount of X offered for sale.
c. consumer's taste.
d. consumer's income.

Answer: B

Difficulty Level: Easy
Section Reference: Demand and Supply Curves
Learning Objective: Understand how the behavior of buyers and sellers can be characterized through demand and supply curves.

11. Which of the following would cause the demand for coffee to increase?

a. An increase in the price of tea, a substitute for coffee
b. A decrease in the price of tea, a substitute for coffee
c. An increase in the price of cream, a complement to coffee
d. An increase in the price of coffee

Answer: A

Difficulty Level: Medium
Section Reference: Demand and Supply Curves
Learning Objective: Understand how the behavior of buyers and sellers can be characterized through demand and supply curves.

12. Which of the following is likely to occur if the demand for housing increases?

a. The price of lumber used to build a house will fall.
b. The interest rate on mortgages needed to purchase a house will rise.
c. The demand for schools will rise.
d. The wages of carpenters who build houses will fall.

Answer: B

Difficulty Level: Hard
Section Reference: Demand and Supply Curves
Learning Objective: Understand how the behavior of buyers and sellers can be characterized through demand and supply curves.

13. “If, at the initial price, there is excess demand, the price will rise. As a consequence, the demand curve shifts down since people buy less at a higher price, and the supply curve shifts up because producers find it profitable to supply more output at a higher price. Price will continue to adjust until there is no excess demand.” Which of the following is true about this statement?

a. The quotation is correct.
b. The quotation confuses excess supply with excess demand.
c. The quotation confuses movements along curves with shifts in curves.
d. The quotation confuses short-run adjustments with long-run adjustments.

Answer: C

Difficulty Level: Medium
Section Reference: Demand and Supply Curves
Learning Objective: Understand how the behavior of buyers and sellers can be characterized through demand and supply curves.

14. Which of the following is likely to shift the demand for chocolates to the left?

a. An increase in the price of cocoa used to make chocolates
b. Medical reports suggesting increased risk of memory loss among the aged due to high chocolate consumption
c. A decrease in the price of chocolates
d. The introduction of minimum wages by the government in an attempt to improve the average wage level in the economy and alleviate poverty

Answer: B

Difficulty Level: Hard
Section Reference: Demand and Supply Curves
Learning Objective: Understand how the behavior of buyers and sellers can be characterized through demand and supply curves.

15. A supply curve for a good depicts the:

a. maximum quantities sellers are willing to offer for sale at alternative prices.
b. maximum quantities that can be produced at alternative prices.
c. quantities sellers will offer as their production costs change.
d. quantities sellers can legally supply.

Answer: A

Difficulty Level: Easy
Section Reference: Demand and Supply Curves
Learning Objective: Understand how the behavior of buyers and sellers can be characterized through demand and supply curves.

16. An increase in quantity supplied occurs when:

a. there is technological advance.
b. the costs of production fall.
c. the price of the good increases.
d. the price of the good falls.

Answer: C

Difficulty Level: Easy
Section Reference: Demand and Supply Curves
Learning Objective: Understand how the behavior of buyers and sellers can be characterized through demand and supply curves.

17. The market supply curve depicts:

a. the negative relationship between the price of the commodity offered for sale and the quantity supplied.
b. the negative relationship between the price of the commodity offered for sale and the producer surplus.
c. the positive relationship between the quantity offered for sale by a single firm and the total supply by all firms in an industry.
d. the positive relationship between market price and the total quantity supplied by all firms in an industry.

Answer: D

Difficulty Level: Easy
Section Reference: Demand and Supply Curves
Learning Objective: Understand how the behavior of buyers and sellers can be characterized through demand and supply curves.

18. An increase in quantity supplied:

a. shifts the supply curve to the right.
b. shifts the supply curve to the left.
c. indicates a movement along the supply curve.
d. makes the supply curve flatter.

Answer: C

Difficulty Level: Easy
Section Reference: Demand and Supply Curves
Learning Objective: Understand how the behavior of buyers and sellers can be characterized through demand and supply curves.

19. As the price of shirts rises, the law of supply would predict a(n):

a. increase in the quantity of shirts supplied.
b. decrease in the quantity of shirts supplied.
c. increase in the supply of shirts.
d. decrease in the supply of shirts.

Answer: A

Difficulty Level: Easy
Section Reference: Demand and Supply Curves
Learning Objective: Understand how the behavior of buyers and sellers can be characterized through demand and supply curves.

20. An increase in supply occurs when:

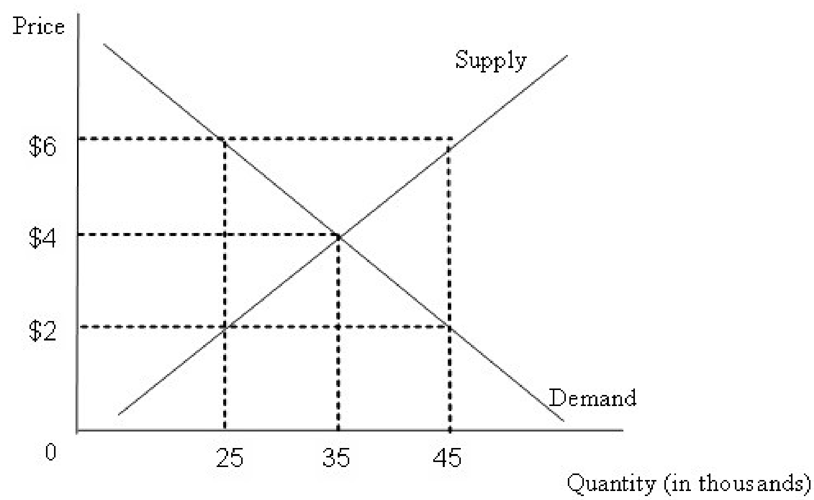
a. there is technological advance.
b. the costs of production rise.
c. the price of the good increases.
d. the price of the good falls.

Answer: C

Difficulty Level: Easy
Section Reference: Demand and Supply Curves
Learning Objective: Understand how the behavior of buyers and sellers can be characterized through demand and supply curves.

21. Refer to Figure 2-1. What is the equilibrium price and quantity in this market?

Figure 2 - 1



a. P=$2 and Q=35,000
b. P=$4 and Q=35,000
c. P=$6 and Q=25,000
d. P=$2 and Q=45,000

Answer: B

Difficulty Level: Easy
Section Reference: Determination of Equilibrium Price and Quantity
Learning Objective: Explain how equilibrium price and quantity are determined in a market for a good or service.

22. When there is an excess demand for a good, there is:

a. downward pressure on price because buyers are willing to pay more.
b. downward pressure on price because firms accumulate unwanted inventories.
c. upward pressure on price because buyers are willing to pay more.
d. upward pressure on price because firms accumulate unwanted inventories.

Answer: C

Difficulty Level: Medium
Section Reference: Determination of Equilibrium Price and Quantity
Learning Objective: Explain how equilibrium price and quantity are determined in a market for a good or service.

23. When there is an excess supply of a good, there is a(n):

a. downward pressure on price because firms hold out for the best price they can get.
b. downward pressure on price because firms accumulate unwanted inventories.
c. upward pressure on price because firms hold out for the best price they can get.
d. upward pressure on price because firms accumulate unwanted inventories.

Answer: B

Difficulty Level: Medium
Section Reference: Determination of Equilibrium Price and Quantity
Learning Objective: Explain how equilibrium price and quantity are determined in a market for a good or service.

24. When the market for a good, such as gasoline, is competitive and its price suddenly increases substantially, we can infer:

a. that the higher price was most likely arbitrarily set by greedy gas companies seeking increased profits.
b. that the higher price was most likely a response to a change in market forces beyond any individual firm's control.
c. nefarious intent on the part of gasoline companies and that a government mandated price ceiling would serve consumers' interests.
d. that prices are not good indicators of relative scarcity.

Answer: B

Difficulty Level: Medium
Section Reference: Determination of Equilibrium Price and Quantity
Learning Objective: Explain how equilibrium price and quantity are determined in a market for a good or service.

25. An excess demand for a good or service tends to cause:

a. an increase in price over time.
b. a decrease in price over time.
c. an offsetting excess supply later.
d. an immediate rightward shift in supply.

Answer: A

Difficulty Level: Medium
Section Reference: Determination of Equilibrium Price and Quantity
Learning Objective: Explain how equilibrium price and quantity are determined in a market for a good or service.

26. An excess demand for a product indicates that:

a. the price is below the equilibrium price.
b. there is a rightward shift in the demand curve.
c. there will be a downward movement along the supply curve.
d. the supply curve will shift rightward.

Answer: A

Difficulty Level: Medium
Section Reference: Determination of Equilibrium Price and Quantity
Learning Objective: Explain how equilibrium price and quantity are determined in a market for a good or service.

27. When the actual price in a market is above the equilibrium price we would expect:

a. this higher price to be the new equilibrium.
b. a shortage of the good or service.
c. a surplus of the good or service.
d. an excess demand or excess supply depending upon the extent of the difference between actual and equilibrium price.

Answer: C

Difficulty Level: Medium
Section Reference: Determination of Equilibrium Price and Quantity
Learning Objective: Explain how equilibrium price and quantity are determined in a market for a good or service.

28. An excess supply for a product indicates that the price is:

a. below the equilibrium price.
b. above the equilibrium price.
c. equal to the unit cost of production.
d. exactly at the choke price.

Answer: B

Difficulty Level: Medium
Section Reference: Determination of Equilibrium Price and Quantity
Learning Objective: Explain how equilibrium price and quantity are determined in a market for a good or service.

29. If both supply and demand for a good increase at the same time, which of the following must also increase?
a. The equilibrium price
b. The use of substitutes
c. The equilibrium quantity
d. The price of substitute goods

Answer: C

Difficulty Level: Medium
Section Reference: Adjustment to Changes in Demand or Supply
Learning Objective: Analyze how a market equilibrium is affected by changes in demand or supply.

30. An increase in the demand for a commodity accompanied by a decrease in its supply will result in a(n):

a. decrease in price and an increase in quantity.
b. increase in both price and quantity.
c. increase in quantity while the price can increase or decrease.
d. increase in price while the quantity can increase or decrease.

Answer: D

Difficulty Level: Medium
Section Reference: Adjustment to Changes in Demand or Supply
Learning Objective: Analyze how a market equilibrium is affected by changes in demand or supply.

31. A local businessman points out that, as the price of DVD players has fallen, sales have increased tremendously. The businessman cites this example as proof that the law of supply does not hold since lower prices should result in lower supplies. Which of the following explanations best solves the paradox cited by the businessman?

a. Demand was decreasing during the period in question.
b. Demand was stable during the period in question.
c. Supply was stable during the period in question.
d. Supply was increasing during the period in question.

Answer: D

Difficulty Level: Hard
Section Reference: Adjustment to Changes in Demand or Supply
Learning Objective: Analyze how a market equilibrium is affected by changes in demand or supply.

32. Which of the following would result in a higher equilibrium price and an ambiguous change in the equilibrium quantity?

a. An increase in both supply and demand
b. An increase in supply and a decrease in demand
c. A decrease in both supply and demand
d. A decrease in supply and an increase in demand

Answer: D

Difficulty Level: Hard
Section Reference: Adjustment to Changes in Demand or Supply
Learning Objective: Analyze how a market equilibrium is affected by changes in demand or supply.

33. Which of the following would result in a higher equilibrium quantity and an ambiguous change in equilibrium price?

a. An increase in supply and demand
b. An increase in supply and a decrease in demand
c. A decrease in supply and demand
d. A decrease in supply and an increase in demand

Answer: A

Difficulty Level: Hard
Section Reference: Adjustment to Changes in Demand or Supply
Learning Objective: Analyze how a market equilibrium is affected by changes in demand or supply.

34. The equilibrium price of houses in the San Francisco Bay Area has risen dramatically in recent years because:

a. there has been an enormous increase in demand.
b. there has been an enormous increase in supply.
c. there has been an enormous decrease in quantity demanded.
d. there has been an enormous increase in quantity supplied.

Answer: A

Difficulty Level: Medium
Section Reference: Adjustment to Changes in Demand or Supply
Learning Objective: Analyze how a market equilibrium is affected by changes in demand or supply.

35. If land use restrictions in major cities were relaxed, the:

a. supply of houses would decrease.
b. demand for houses would increase.
c. supply of houses would increase.
d. demand for houses would decrease.

Answer: C

Difficulty Level: Easy
Section Reference: Adjustment to Changes in Demand or Supply
Learning Objective: Analyze how a market equilibrium is affected by changes in demand or supply.

36. An expectation that the price of housing will increase more rapidly in coming years will cause the:

a. supply of houses today to decrease.
b. demand for houses today to increase.
c. supply of houses today to increase.
d. demand for houses today to decrease.

Answer: B

Difficulty Level: Easy
Section Reference: Adjustment to Changes in Demand or Supply
Learning Objective: Analyze how a market equilibrium is affected by changes in demand or supply.

37. Which of the following market outcomes can be explained by the supply-demand model?

a. An increase in the demand for cigarettes after an increase in its price
b. A decrease in household consumption following an increase in average monthly income
c. An increase in supply in spite of a decline in input prices
d. An increase in the per capita consumption of medical care in a country due to an epidemic

Answer: D

Difficulty Level: Medium
Section Reference: Adjustment to Changes in Demand or Supply
Learning Objective: Analyze how a market equilibrium is affected by changes in demand or supply.

38. Which one of the following will *not* cause a change in the demand for gasoline?

a. More people deciding to live closer to their workplace
b. More people purchasing large pickup trucks and sports utility vehicles
c. New technology that lowers the cost of producing gasoline
d. Expectations of consumers that the price of gasoline will be significantly greater next week

Answer: C

Difficulty Level: Medium
Section Reference: Adjustment to Changes in Demand or Supply
Learning Objective: Analyze how a market equilibrium is affected by changes in demand or supply.

39. When the demand for a commodity decreases and its supply is vertical we can conclude that:

a. both price and quantity will rise.
b. price will fall while quantity remains constant.
c. quantity will rise while price remains constant.
d. neither price nor quantity will change.

Answer: B

Difficulty Level: Medium
Section Reference: Adjustment to Changes in Demand or Supply
Learning Objective: Analyze how a market equilibrium is affected by changes in demand or supply.

40. An increase in supply, other things equal, will cause the:

a. equilibrium price to fall and the equilibrium quantity to rise.
b. equilibrium price and quantity to fall.
c. equilibrium price and quantity to rise.
d. equilibrium price to rise and the equilibrium quantity to fall.

Answer: A

Difficulty Level: Medium
Section Reference: Adjustment to Changes in Demand or Supply
Learning Objective: Analyze how a market equilibrium is affected by changes in demand or supply.

41. Which of the following is true of a legislated price ceiling?

a. It is illegal to charge a price higher than the ceiling.
b. It is illegal to sell commodities on which ceiling has been imposed.
c. It is illegal to charge a price lower than the ceiling.
d. It is illegal to buy commodities on which ceiling has been imposed.

Answer: A

Difficulty Level: Easy
Section Reference: Government Intervention in Markets: Price Controls
Learning Objective: Explore the effects of government intervention in markets and how a price ceiling impacts price, quantity supplied, quantity demanded, and the welfare of buyers and sellers.

42. Which of the following is an example of price ceiling?

a. A payment made by the government to farmers to prevent them from planting certain crops
b. Purchase of certain food crops by the government to lower its supply and increase its price
c. A cap on the automobile insurance rate charged in some states
d. A minimum wage announced by the government for workers in some specific industries

Answer: C

Difficulty Level: Medium
Section Reference: Government Intervention in Markets: Price Controls
Learning Objective: Explore the effects of government intervention in markets and how a price ceiling impacts price, quantity supplied, quantity demanded, and the welfare of buyers and sellers.

43. Farmers can benefit from government intervention if:

a. price floors for agricultural goods are set above the equilibrium price.
b. price floors for fertilizers are set above the equilibrium price.
c. price ceilings on agricultural products are set below the equilibrium price.
d. price floors for agricultural goods are set below the equilibrium price.

Answer: A

Difficulty Level: Medium
Section Reference: Government Intervention in Markets: Price Controls
Page: 28-29

44. If a price ceiling is imposed and the quantity demanded exceeds the quantity supplied, which of the following is *not* likely to occur?

a. Nonprice rationing
b. Black markets
c. Increased production
d. Quality deterioration

Answer: C

Difficulty Level: Medium
Section Reference: Government Intervention in Markets: Price Controls
Learning Objective: Explore the effects of government intervention in markets and how a price ceiling impacts price, quantity supplied, quantity demanded, and the welfare of buyers and sellers.

45. Suppose a vaccine for the common cold is discovered. The government begins to produce the vaccine in as large a volume as possible. However, the market clearing price is very high due to high demand for it. Following this, the government introduces a price control and sets up an allocation scheme to control the vaccine's distribution. Which of the following is likely to be true about the price control introduced by the government?

a. The price set by the government is above the market equilibrium.
b. The price set by the government is below the market equilibrium.
c. The price set by the government is same as the market equilibrium.
d. Nothing can be determined about the price control from the information given here.

Answer: B

Difficulty Level: Medium
Section Reference: Government Intervention in Markets: Price Controls
Learning Objective: Explore the effects of government intervention in markets and how a price ceiling impacts price, quantity supplied, quantity demanded, and the welfare of buyers and sellers.

46. At every point on an individual's demand curve, the height to the demand curve measures:

a. the quantity demanded of the good.
b. the marginal benefit of the good to the consumer.
c. the real income of the consumer.
d. the consumer surplus.

Answer: B

Difficulty Level: Medium
Section Reference: Government Intervention in Markets: Price Controls
Learning Objective: Explore the effects of government intervention in markets and how a price ceiling impacts price, quantity supplied, quantity demanded, and the welfare of buyers and sellers.

47. Price ceilings are often associated with:

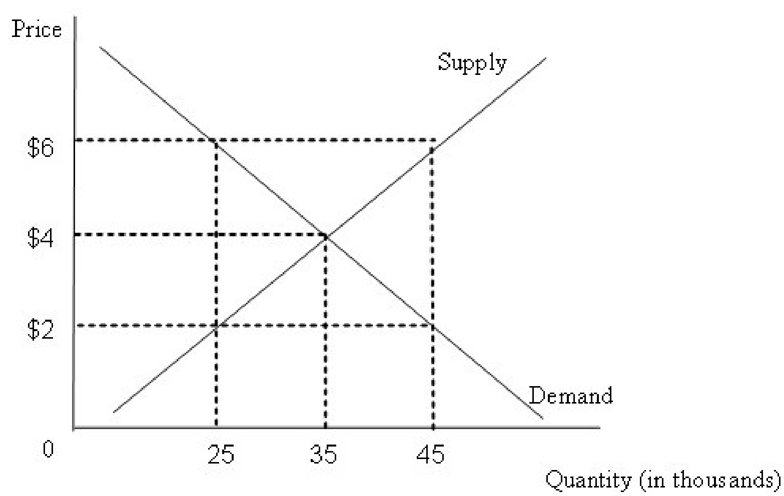
a. price rationing.
b. quality deterioration.
c. quality enhancement.
d. excess supplies.

Answer: B

Difficulty Level: Medium
Section Reference: Government Intervention in Markets: Price Controls
Learning Objective: Explore the effects of government intervention in markets and how a price ceiling impacts price, quantity supplied, quantity demanded, and the welfare of buyers and sellers.

48. Refer to Figure 2-1. Assume that a price ceiling of $2 is imposed in this market, what will be the new quantity sold in this market?

Figure 2- 1



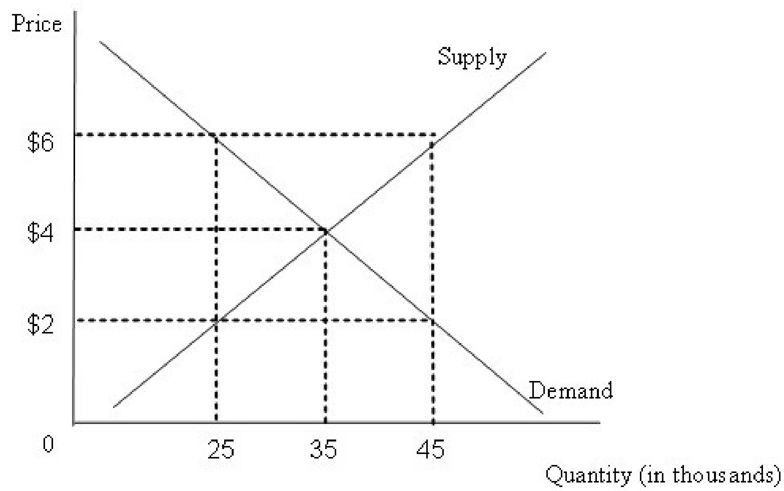
a. 25,000
b. 35,000
c. 45,000
d. 60,000

Answer: A

Difficulty Level: Easy
Section Reference: Government Intervention in Markets: Price Controls
Learning Objective: Explore the effects of government intervention in markets and how a price ceiling impacts price, quantity supplied, quantity demanded, and the welfare of buyers and sellers.

49. Refer to Figure 2-1. Assume that an effective price ceiling of $2 is imposed in this market. What is the maximum cost that consumers will be willing to bear to be able to consume the good or service?

Figure 2- 1



a. $2
b. $4
c. $6
d. $8

Answer: C

Difficulty Level: Hard
Section Reference: Government Intervention in Markets: Price Controls
Learning Objective: Explore the effects of government intervention in markets and how a price ceiling impacts price, quantity supplied, quantity demanded, and the welfare of buyers and sellers.

50. The state of Florida enacted anti-gouging legislation that imposes criminal penalties on individuals or firms that charge more for their goods or services after a disaster, like a hurricane or tornado, than they charged just prior to the disaster. Each of the following represents the social loss of this legislation, *except*:

a. people would have to search longer to find available scarce resources like ice, plywood, and hotel rooms.
b. people would spend more time waiting in lines to acquire some of the scarce goods like ice, plywood, and hotel rooms.
c. more people who have alternatives to consuming the scarce goods like ice, plywood, and hotel rooms at the higher prices would now consume them.
d. fewer people will demand the scarce goods like ice, plywood, and hotel rooms which will reduce the producer surplus

Answer: D

Difficulty Level: Easy
Section Reference: Government Intervention in Markets: Price Controls
Learning Objective: Explore the effects of government intervention in markets and how a price ceiling impacts price, quantity supplied, quantity demanded, and the welfare of buyers and sellers.

51. All of the following are common responses to a price ceiling, *except*:

a. an excess supply.
b. nonprice rationing.
c. quality deterioration.
d. black markets.

Answer: A

Difficulty Level: Medium
Section Reference: Government Intervention in Markets: Price Controls
Learning Objective: Explore the effects of government intervention in markets and how a price ceiling impacts price, quantity supplied, quantity demanded, and the welfare of buyers and sellers.

52. Which of the following statements is true of price ceilings?

a. The true cost of the good to consumers is usually greater than the money cost.
b. All consumers benefit from the lower price.
c. Nonprice rationing associated with price controls is more efficient than rationing by price.
d. Shortages associated with price ceilings generally do not last any longer than shortages associated with free markets.

Answer: A

Difficulty Level: Medium
Section Reference: Government Intervention in Markets: Price Controls
Learning Objective: Explore the effects of government intervention in markets and how a price ceiling impacts price, quantity supplied, quantity demanded, and the welfare of buyers and sellers.

53. When the government establishes a price ceiling below the equilibrium price:

a. there will be a temporary shortage that market forces will eventually clear.
b. a shortage will occur that market forces will not be able to clear.
c. producers will eliminate the resulting shortage by jointly deciding to increase supply.
d. the market equilibrium price will prevail.

Answer: B

Difficulty Level: Medium
Section Reference: Government Intervention in Markets: Price Controls
Learning Objective: Explore the effects of government intervention in markets and how a price ceiling impacts price, quantity supplied, quantity demanded, and the welfare of buyers and sellers.

54. Which of the following is *not* likely to result from a price ceiling that is below the equilibrium price?

a. Some form of non-price rationing
b. A shortage that market forces cannot be expected to eliminate
c. Improvements in product quality
d. Waiting in lines to obtain some of the good

Answer: C

Difficulty Level: Medium
Section Reference: Government Intervention in Markets: Price Controls
Learning Objective: Explore the effects of government intervention in markets and how a price ceiling impacts price, quantity supplied, quantity demanded, and the welfare of buyers and sellers.

55. Which of the following is a disadvantage of rent control to the tenants?

a. Fluctuations in the rental rates
b. Predominance of a black market
c. Low demand for houses
d. Poor quality of houses

Answer: D

Difficulty Level: Easy
Section Reference: Government Intervention in Markets: Price Controls
Learning Objective: Explore the effects of government intervention in markets and how a price ceiling impacts price, quantity supplied, quantity demanded, and the welfare of buyers and sellers.

56. The low availability of houses on rent cause potential tenants to incur the cost of waiting. The first-come first-serve basis used by owners while letting out houses under a rent control is a form of:

a. price rationing.
b. black marketing.
c. nonprice rationing.
d. predatory pricing.

Answer: C

Difficulty Level: Easy
Section Reference: Government Intervention in Markets: Price Controls
Learning Objective: Explore the effects of government intervention in markets and how a price ceiling impacts price, quantity supplied, quantity demanded, and the welfare of buyers and sellers.

57. Identify the black market that can emerge from rent controls.

a. Rationing
b. Subletting
c. Leasing
d. Licensing

Answer: B

Difficulty Level: Easy
Section Reference: Government Intervention in Markets: Price Controls
Learning Objective: Explore the effects of government intervention in markets and how a price ceiling impacts price, quantity supplied, quantity demanded, and the welfare of buyers and sellers.

59. Britain and Canada impose strict limits on reimbursements to hospitals and physicians as part of their universal “free” health care. This is a form of a:

a. price floor leading to lengthy delays before receiving treatment.
b. price ceiling leading to lengthy delays before receiving treatment.
c. price floor leading to shorter waiting times.
d. price ceiling leading to shorter waiting times.

Answer: B

Difficulty Level: Medium
Section Reference: Government Intervention in Markets: Price Controls
Learning Objective: Explore the effects of government intervention in markets and how a price ceiling impacts price, quantity supplied, quantity demanded, and the welfare of buyers and sellers.

59. The price elasticity of demand for a good is equal to:

a. the percentage change in quantity demanded divided by the percentage change in price.
b. the percentage change in price divided by the percentage change in quantity demanded.
c. the percentage change in quantity divided by the change in price.
d. the percentage change in price divided by the change in quantity demanded.

Answer: A

Difficulty Level: Medium
Section Reference: Elasticities
Learning Objective: Show how elasticities provide a quantitative measure of the responsiveness of quantity demanded or supplied to a change in some other variable such as price or income.

60. Which of the following statements about demand elasticity is correct?

a. If demand is price-inelastic, an increase in price will reduce total expenditures.
b. If demand is price-elastic, an increase in price will increase total expenditures.
c. If demand is price-inelastic, an increase in price will increase total expenditures.
d. If demand is price-elastic, an increase in price will leave total expenditure unchanged.

Answer: C

Difficulty Level: Medium
Section Reference: Elasticities
Learning Objective: Show how elasticities provide a quantitative measure of the responsiveness of quantity demanded or supplied to a change in some other variable such as price or income.

61. If a higher price results in no change in total expenditure, then demand is:

a. elastic.
b. inelastic.
c. unit-elastic.
d. not responsive to price changes at all.

Answer: C

Difficulty Level: Medium
Section Reference: Elasticities
Learning Objective: Show how elasticities provide a quantitative measure of the responsiveness of quantity demanded or supplied to a change in some other variable such as price or income.

62. If the value of price elasticity of demand is 0.2, it implies that a 1 percent increase in price leads to a:

a. 2 percent decrease in quantity demanded.
b. 2 percent increase in quantity demanded.
c. 0.2 percent decrease in quantity demanded.
d. 0.2 percent increase in quantity demanded.

Answer: C

Difficulty Level: Medium
Section Reference: Elasticities
Learning Objective: Show how elasticities provide a quantitative measure of the responsiveness of quantity demanded or supplied to a change in some other variable such as price or income.

63. For which one of the following commodities is the demand curve likely to be most elastic?

a. Cigarettes
b. Iams Dog food
c. Milk
d. Automobiles

Answer: B

Difficulty Level: Medium
Section Reference: Elasticities
Learning Objective: Show how elasticities provide a quantitative measure of the responsiveness of quantity demanded or supplied to a change in some other variable such as price or income.

64. If the price elasticity of demand for a commodity is greater than one, it implies that:

a. an increase in supply will increase total revenues.
b. a decrease in supply will increase total revenues.
c. a price ceiling that lowers price below the market equilibrium will increase total the total consumer spending on that good.
d. a price floor that raises price above the equilibrium will increase total the total consumer spending on that good.

Answer: C

Difficulty Level: Hard
Section Reference: Elasticities
Learning Objective: Show how elasticities provide a quantitative measure of the responsiveness of quantity demanded or supplied to a change in some other variable such as price or income.

65. Corn farmers in a country are colluding to reduce the market supply of corn. This will successfully raise the farmers' incomes only if the demand for corn is:

a. elastic.
b. inelastic.
c. unit elastic.
d. infinitely-elastic.

Answer: B

Difficulty Level: Hard
Section Reference: Elasticities
Learning Objective: Show how elasticities provide a quantitative measure of the responsiveness of quantity demanded or supplied to a change in some other variable such as price or income.

66. Along a linear demand curve, price elasticity of demand:

a. increases as price falls.
b. is independent of price.
c. decreases as price falls.
d. remains unchanged.

Answer: C

Difficulty Level: Medium
Section Reference: Elasticities
Learning Objective: Show how elasticities provide a quantitative measure of the responsiveness of quantity demanded or supplied to a change in some other variable such as price or income.

67. If price changes from $4.75 to $5.25 and quantity demanded changes from 1,025 to 975 units, then the price elasticity of demand is approximately:

a. 4.0.
b. 0.5.
c. 0.25
d. 2.2.

Answer: B

Difficulty Level: Medium
Section Reference: Elasticities
Learning Objective: Show how elasticities provide a quantitative measure of the responsiveness of quantity demanded or supplied to a change in some other variable such as price or income.

68. Suppose 100 pretzels are demanded at a given price. If the price of pretzels rises by 5% and the number of pretzels demanded falls to 92, it can be concluded that:.

a. the demand for pretzels in the price range is elastic.
b. the demand for pretzels in the price range is inelastic.
c. the demand for pretzels in the price range is unit elastic.
d. the price elasticity of demand for pretzels is zero.

Answer: A

Difficulty Level: Hard
Section Reference: Elasticities
Learning Objective: Show how elasticities provide a quantitative measure of the responsiveness of quantity demanded or supplied to a change in some other variable such as price or income.

69. Which one of the following is not a factor in the elasticity of demand for a good or service?

a. The length of time the price change is in effect
b. The substitutes available for the good or service
c. The percentage of one's budget the item consumes
d. The cost of producing the good or service

Answer: D

Difficulty Level: Easy
Section Reference: Elasticities
Learning Objective: Show how elasticities provide a quantitative measure of the responsiveness of quantity demanded or supplied to a change in some other variable such as price or income.

70. Elasticity of demand tends to be greater:

a. the longer the time period involved.
b. the more complements the good has.
c. the lower the number of substitutes available.
d. the more widely defined the commodity class.

Answer: A

Difficulty Level: Medium
Section Reference: Elasticities
Learning Objective: Show how elasticities provide a quantitative measure of the responsiveness of quantity demanded or supplied to a change in some other variable such as price or income.

71. For which one of the following goods is the long-run elasticity of demand greatest?

a. Soap
b. Chevrolet automobiles
c. Beer
d. Water

Answer: B

Difficulty Level: Easy
Section Reference: Elasticities
Learning Objective: Show how elasticities provide a quantitative measure of the responsiveness of quantity demanded or supplied to a change in some other variable such as price or income.

72. If income of an individual increases from $20,000 to $30,000 and the quantity of X demanded _____, then X is a(n) _____

a. increases; normal good
b. increases; inferior good
c. decreases; normal good
d. decreases; luxury good

Answer: A

Difficulty Level: Medium
Section Reference: Elasticities
Learning Objective: Show how elasticities provide a quantitative measure of the responsiveness of quantity demanded or supplied to a change in some other variable such as price or income.

73. Which one of the following goods is likely to have the highest income elasticity of demand?

a. Diamonds
b. Water
c. Pretzels
d. Beer

Answer: A

Difficulty Level: Medium
Section Reference: Elasticities
Learning Objective: Show how elasticities provide a quantitative measure of the responsiveness of quantity demanded or supplied to a change in some other variable such as price or income.

74. If the average household income in some town increased from $50,000 to $60,000, and their expenditure on housing increased from $1,400 per month to $1,484 per month, the income elasticity of demand for housing is:

a. -0.4
b. 0.3
c. 1.0
d. 1.2

Answer: B

Difficulty Level: Medium
Section Reference: Elasticities
Learning Objective: Show how elasticities provide a quantitative measure of the responsiveness of quantity demanded or supplied to a change in some other variable such as price or income.

75. The income elasticity of demand for an inferior good:

a. is negative.
b. is positive.
c. is zero.
d. depends on the price elasticity of demand for that food.

Answer: A

Difficulty Level: Easy
Section Reference: Elasticities
Learning Objective: Show how elasticities provide a quantitative measure of the responsiveness of quantity demanded or supplied to a change in some other variable such as price or income.

76. Compute the income elasticity of the demand for oats, if a 12% decrease in an individual's income increases his demand for oats by 6%.

a. -2
b. 0.4
c. -0.5
d. 1.2

Answer: C

Difficulty Level: Medium
Section Reference: Elasticities
Learning Objective: Show how elasticities provide a quantitative measure of the responsiveness of quantity demanded or supplied to a change in some other variable such as price or income.

77. The cross-price elasticity of demand between substitutes:

a. is negative.
b. is positive.
c. is zero.
d. is negative if the own-price elasticity of each good is inelastic, but positive if the own-price elasticity of each good is elastic.

Answer: B

Difficulty Level: Medium
Section Reference: Elasticities
Learning Objective: Show how elasticities provide a quantitative measure of the responsiveness of quantity demanded or supplied to a change in some other variable such as price or income.

79. The cross price elasticity of demand for Good X with respect to Good Y is 1.2 and that with respect to Good Z is -0.3. This implies:

a. Good X and Good Y are complements.
b. Good X and Good Z are substitutes.
c. Good Y and Good Z are substitutes.
d. Good X and Good Z are complements.

Answer: D

Difficulty Level: Hard
Section Reference: Elasticities
Learning Objective: Show how elasticities provide a quantitative measure of the responsiveness of quantity demanded or supplied to a change in some other variable such as price or income.

79. If the cross-price elasticity of demand between two goods is 1.75, then the two goods are:

a. complements.
b. substitutes.
c. luxury goods.
d. inferior goods.

Answer: B

Difficulty Level: Medium
Section Reference: Elasticities
Learning Objective: Show how elasticities provide a quantitative measure of the responsiveness of quantity demanded or supplied to a change in some other variable such as price or income.

80. If an increase in the price of oil from $20 to $24 per barrel induces firms to increase production from 1 million to 1.6 million barrels, then the elasticity of supply is:

a. 1.54.
b. 3.
c. 2.25.
d. 2.

Answer: B

Difficulty Level: Medium
Section Reference: Elasticities
Learning Objective: Show how elasticities provide a quantitative measure of the responsiveness of quantity demanded or supplied to a change in some other variable such as price or income.

81. When the per-unit cost of producing a commodity is constant, the price elasticity of supply is:

a. zero.
b. infinite.
c. one.
d. negative.

Answer: B

Difficulty Level: Medium
Section Reference: Elasticities
Learning Objective: Show how elasticities provide a quantitative measure of the responsiveness of quantity demanded or supplied to a change in some other variable such as price or income.

82. Which of the following is true of a linear demand curve?

a. The demand curve is less elastic at higher prices.
b. The demand curve is more elastic at lower prices.
c. Elasticity changes along the demand curve.
d. Elasticity is constant along the demand curve.

Answer: C

Difficulty Level: Medium
Section Reference: Elasticities
Learning Objective: Explain the mathematics associated with elasticities.

83. Along a linear demand curve, the price elasticity:

a. is constant.
b. increases as price falls.
c. is equal to one at the midpoint.
d. decreases as the price level rises.

Answer: C

Difficulty Level: Medium
Section Reference: Elasticities
Learning Objective: Explain the mathematics associated with elasticities.

84. Along a linear demand curve, the price elasticity:

a. is constant.
b. increases as price falls.
c. is equal to zero at the midpoint.
d. increases as the price level rises.

Answer: D

Difficulty Level: Medium
Section Reference: Elasticities
Learning Objective: Explain the mathematics associated with elasticities.

85. Consider the demand curve $Q = 50 - 3P$, for $P=10$ elasticity is:

a. 1.
b. 1.5.
c. 3.
d. 6.

Answer: B

Difficulty Level: Medium
Section Reference: Elasticities
Learning Objective: Explain the mathematics associated with elasticities.

86. Consider the demand curve $Q = 3P^{-½}$, when P =10 elasticity is:

a. 0.5
b. 1.5.
c. 3.
d. 6.

Answer: A

Difficulty Level: Medium
Section Reference: Elasticities
Learning Objective: Explain the mathematics associated with elasticities.

Question Type: True False

87. The law of demand is the economic principle that says the lower the price of a good, the larger the quantity producers wish to supply.

Answer: False

Difficulty Level: Easy
Section Reference: Demand and Supply Curves
Learning Objective: Understand how the behavior of buyers and sellers can be characterized through demand and supply curves.

88. Normal goods are those goods for which consumers make regular, routine purchases.

Answer: False

Difficulty Level: Easy
Section Reference: Demand and Supply Curves
Learning Objective: Understand how the behavior of buyers and sellers can be characterized through demand and supply curves.

89. Inferior goods are those goods whose consumption falls when income rises.

Answer: True

Difficulty Level: Easy
Section Reference:
Learning Objective:

90. Complements are goods that can replace one another in consumption.

Answer: False

Difficulty Level: Easy
Section Reference: Demand and Supply Curves
Learning Objective: Understand how the behavior of buyers and sellers can be characterized through demand and supply curves.

91. Movement along a given demand curve is the same as a shift of the same demand curve.

Answer: False

Difficulty Level: Easy
Section Reference: Demand and Supply Curves
Learning Objective: Understand how the behavior of buyers and sellers can be characterized through demand and supply curves.

92. Equilibrium is a situation in which the quantity demanded equals the quantity supplied at the prevailing price.

Answer: True

Difficulty Level: Easy
Section Reference: Determination of Equilibrium Price and Quantity
Learning Objective: Explain how equilibrium price and quantity are determined in a market for a good or service.

93. Disequilibrium occurs when it proves impossible to reach equilibrium.

Answer: False

Difficulty Level: Easy
Section Reference: Determination of Equilibrium Price and Quantity
Learning Objective: Explain how equilibrium price and quantity are determined in a market for a good or service.

94. The leading explanation about why Americans are getting fatter is the decrease in the real price of food.

Answer: True

Difficulty Level: Easy
Section Reference: Adjustment to Changes in Demand or Supply
Learning Objective: Analyze how a market equilibrium is affected by changes in demand or supply.

95. A price ceiling is a legislated maximum price for a good.

Answer: True

Difficulty Level: Easy
Section Reference: Government Intervention in Markets: Price Controls
Learning Objective: Explore the effects of government intervention in markets and how a price ceiling impacts price, quantity supplied, quantity demanded, and the welfare of buyers and sellers.

96. Governments impose price ceilings but not price floors.

Answer: False

Difficulty Level: Easy
Section Reference: Government Intervention in Markets: Price Controls
Learning Objective: Explore the effects of government intervention in markets and how a price ceiling impacts price, quantity supplied, quantity demanded, and the welfare of buyers and sellers.

97. There are no drawbacks to rent control.

Answer: False

Difficulty Level: Easy
Section Reference: Government Intervention in Markets: Price Controls
Learning Objective: Explore the effects of government intervention in markets and how a price ceiling impacts price, quantity supplied, quantity demanded, and the welfare of buyers and sellers.

98. Rent controls reduce the number of units offered to rent.

Answer: True

Difficulty Level: Moderate
Section Reference: Government Intervention in Markets: Price Controls
Learning Objective: Explore the effects of government intervention in markets and how a price ceiling impacts price, quantity supplied, quantity demanded, and the welfare of buyers and sellers.

99. Rent controls reduce quality.

Answer: True

Difficulty Level: Moderate
Section Reference: Government Intervention in Markets: Price Controls
Learning Objective: Explore the effects of government intervention in markets and how a price ceiling impacts price, quantity supplied, quantity demanded, and the welfare of buyers and sellers.

100. Under rent control, nonprice rationing becomes more prevalent.

Answer: True

Difficulty Level: Moderate
Section Reference: Government Intervention in Markets: Price Controls
Learning Objective: Explore the effects of government intervention in markets and how a price ceiling impacts price, quantity supplied, quantity demanded, and the welfare of buyers and sellers.

101. A black market is a market for rent controlled apartments.

Answer: False

Difficulty Level: Easy
Section Reference: Government Intervention in Markets: Price Controls
Learning Objective: Explore the effects of government intervention in markets and how a price ceiling impacts price, quantity supplied, quantity demanded, and the welfare of buyers and sellers.

102. Responsiveness measures of the magnitude of the speed of change of any variable (such as quantity demanded or supplied) to a change in particular determinants.

Answer: False

Difficulty Level: Easy
Section Reference: Elasticities
Learning Objective: Show how elasticities provide a quantitative measure of the responsiveness of quantity demanded or supplied to a change in some other variable such as price or income.

103. The price elasticity of demand is a measure of how sensitive the quantity demanded is to a change in the quantity supplied.

Answer: False

Difficulty Level: Easy
Section Reference: Elasticities
Learning Objective: Show how elasticities provide a quantitative measure of the responsiveness of quantity demanded or supplied to a change in some other variable such as price or income.

104. Elastic is the situation in which price elasticity of demand exceeds 100.

Answer: False

Difficulty Level: Easy
Section Reference: Elasticities
Learning Objective: Show how elasticities provide a quantitative measure of the responsiveness of quantity demanded or supplied to a change in some other variable such as price or income.

105. Inelastic is the satiation in which the price elasticity of demand is less than unity.

Answer: True

Difficulty Level: Easy
Section Reference: Elasticities
Learning Objective: Show how elasticities provide a quantitative measure of the responsiveness of quantity demanded or supplied to a change in some other variable such as price or income.

106. Unit elastic is the price elasticity of a single product.

Answer: False

Difficulty Level: Easy
Section Reference: Elasticities
Learning Objective: Show how elasticities provide a quantitative measure of the responsiveness of quantity demanded or supplied to a change in some other variable such as price or income.

107. Price elasticity of supply is a measure of the responsiveness of the quantity supplied of a commodity to a change in the commodity's own price.

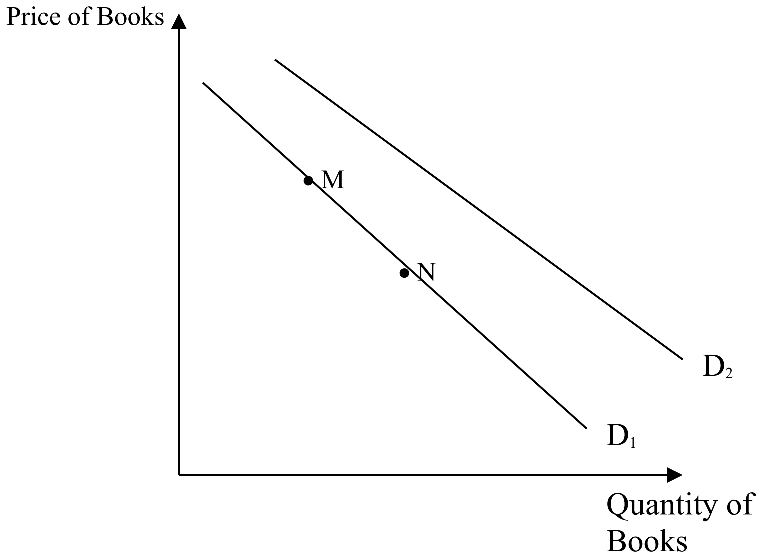
Answer: True

Difficulty Level: Easy
Section Reference: Elasticities
Learning Objective: Show how elasticities provide a quantitative measure of the responsiveness of quantity demanded or supplied to a change in some other variable such as price or income.

Question Type: Essay

108. Explain the difference between a change in demand (supply) and a change in quantity demanded (supplied).

Answer:



A change in demand (or shift in demand) is a movement of the entire demand schedule. For example, the move from D_1 to D_2 above is an increase in demand (not an increase in quantity demanded). This can be caused by a change in income the price of related goods, or tastes affecting the quantity demanded *at each possible price*.

A change in quantity demanded is movement along a fixed demand curve. For example, the move from point M to point N represents an increase in quantity demanded. Since the demand curve does not change, all other factors influencing demand except the price are held constant. In short, a change in price induces a change in quantity demanded, while a change in any factor other than price causes a change in demand. The same reasoning applies to supply curves.

Difficulty Level: Medium

Section Reference: Demand and Supply Curves
Learning Objective: Understand how the behavior of buyers and sellers can be characterized through demand and supply curves.

109. Each row and column heading describes a shock to a market initially in equilibrium. Fill in the table indicating whether the new equilibrium price and quantity will increase, decrease, or not change.

Answer:

	No change in Supply	**Increase in Supply**	**Decrease in Supply**
No change in Demand	P* same, Q* same	P* lower, Q* higher	P* higher, Q* lower
Increase in Demand	P* higher, Q* higher	P* ambiguous, Q* higher	P* higher, Q* ambiguous
Decrease in Demand	P* lower, Q* lower	P* lower, Q* ambiguous	P* ambiguous, Q* lower

Difficulty Level: Hard
Section Reference: Determination of Equilibrium Price and Quantity
Learning Objective: Explain how equilibrium price and quantity are determined in a market for a good or service.

110. The demand and supply functions of a firm are given as follows:
$Q_d = 10 - 3P$
$Q_s = 2 + P$

a) Determine the equilibrium price and quantity.
b) Derive the price elasticity of demand assuming that the price level falls 10% below the equilibrium price.

Answer:
(a) Equilibrium is determined at the point where $Q_d = Q_s$. Equating the two equations we get: $10 – 3P = 2 + P$, or $P = 2$. Substituting the value of P we get $Q = 4$. Therefore, the equilibrium price and quantity are $2 and 4 units.

(b) Equilibrium price = $2, new price level (after 10% decline) = $1.80. Equilibrium output = 4 units, new output (substituting the value in the demand equation) = 4.60 units.
We know that price elasticity of demand = % change in quantity demanded ÷ % change in price = 1.5. Since the absolute value of elasticity is greater than one, it implies the demand for this commodity is elastic.

Difficulty Level: Hard
Section Reference 01: Determination of Equilibrium Price and Quantity
Section Reference 02: Elasticities
Learning Objective 01: Explain how equilibrium price and quantity are determined in a market for a good or service.
Learning Objective 02: Show how elasticities provide a quantitative measure of the responsiveness of quantity demanded or supplied to a change in some other variable such as price or income.

111. For each of the following market situations, explain whether the supply curve or the demand curve shits, in which direction does it shift, and the equilibrium price and quantity as a result of the change.

a) The market for Ginkgo Biloba after studies shows its efficacy at memory retention with no adverse side effects.
b) The market is for automobiles after the price of steel, which is used to produce automobiles, increases by 50%.
c) The market is for daily newspapers as more news becomes available for free on the Internet.
d) The market is for accounting services after spreadsheet and accounting software is introduced for use with personal computers.

Answer:
a) The demand curve shifts up and to the right, resulting in a higher price and quantity sold in the market.

b) The supply curve shifts back and to the left, resulting in a higher price and reduced quantity sold in the market.

c) The demand curve shifts down and to the left, resulting in a lower price and reduced quantity sold in the market.

d) The supply curve shifts out and to the right, resulting in a lower price and increased quantity sold in the market.

Difficulty Level: Medium
Section Reference: Adjustment to Changes in Demand or Supply
Learning Objective: Analyze how a market equilibrium is affected by changes in demand or supply.

112. Determine the price elasticity of demand for commodity X, if a 15% increase in its price:
a) has no impact on its total expenditure.
b) reduces total expenditure.
c) increases total expenditure.

Answer:
a) If the 15% increase in price reduces quantity demanded by 15%, the total expenditure will remain unchanged. This implies the demand for X is unit elastic.

b) If the 15% increase in price reduces quantity demanded by more than 15%, the total expenditure will fall. This implies the demand for X is elastic.

c) If the 15% increase in price increases quantity demanded by more than 15%, the total expenditure will rise. This implies the demand for X is inelastic.

Difficulty Level: Hard
Section Reference: Elasticities
Learning Objective: Show how elasticities provide a quantitative measure of the responsiveness of quantity demanded or supplied to a change in some other variable such as price or income.

113. The demand curve for soda is represented by the following equation: Q=12-2P. If at the current market price the elasticity of demand for soda is -2, what is the market price?

Answer:
Using the information given, we can fill in part of the point elasticity formula and solve for P.

$$\eta = \frac{dQ}{dP} \cdot \frac{P}{Q}$$

$\eta = -2$ and $\frac{dQ}{dP} = -2$. Lastly, Q is given as 12-2P. Therefore: $-2 = -2\left(\frac{P}{12-2P}\right)$ and P=4

Difficulty Level: Hard
Section Reference: Elasticities
Learning Objective: Show how elasticities provide a quantitative measure of the responsiveness of quantity demanded or supplied to a change in some other variable such as price or income.

114. Explain how a change in price affects total expenditure by filling in each cell with the resulting change in total expenditure.

Answer:

Demand is …	**Increase in Price**	**Decrease in Price**
Elastic	Lower total expenditure	Higher total expenditure
Unit-elastic	Total expenditure is unchanged	Total expenditure is unchanged
Inelastic	Higher total expenditure	Lower total expenditure

Difficulty Level: Easy
Section Reference: Elasticities
Learning Objective: Show how elasticities provide a quantitative measure of the responsiveness of quantity demanded or supplied to a change in some other variable such as price or income.

115. What will be the shape of the supply curve and the elasticity of supply of a good, if the average cost of production increases with an increase in output? If after a point in time, the per-unit cost of production becomes constant how will the shape of the supply curve and the elasticity change?

Answer: The supply curve will be upward sloping and the elasticity of supply will be positive under increasing per unit cost of production. When the per-unit cost of production becomes constant, the supply curve will become horizontal and the quantity supplied will become infinitely price elastic.

Difficulty Level: Medium
Section Reference: Elasticities
Learning Objective: Show how elasticities provide a quantitative measure of the responsiveness of quantity demanded or supplied to a change in some other variable such as price or income.

116. Explain how a change in price affects total expenditure by filling in each cell with the change in price that must have occurred.

Answer:

Demand is …	**Higher Total Expenditure**	**Lower Total Expenditure**
Elastic	Price decreased	Price increased
Inelastic	Price increased	Price decreased

Difficulty Level: Easy
Section Reference: Elasticities
Learning Objective: Show how elasticities provide a quantitative measure of the responsiveness of quantity demanded or supplied to a change in some other variable such as price or income.

117. Let the market demand for rye bread be given by Q = 500 + I – 250P_{rye} + 400P_{wheat}, where Q is monthly demand in number of loaves, I is average monthly income in dollars, P_{rye} is the price of a loaf of rye bread, and P_{wheat} is the price of a loaf of wheat bread. If I = \$1,000, P_{rye} = \$2, and P_{wheat} = \$3, calculate the following (based on 10% changes in denominators):

a) the arc price elasticity of demand for rye bread
b) the arc price elasticity of demand for wheat bread
c) the arc cross-price elasticity of demand for rye bread
d) the arc income elasticity of demand for rye bread

Answer:
a) Q = 500 + 1,000 – 250 (2) + 400(3) = 2,200. A 10% increase in the price of rye bread from \$2 to \$2.20 results in Q = 2,150 for ΔQ = – 50. Note that I and P_{wheat} are held constant in this calculation. Thus,

$$\eta_{Q_{rye},P_{rye}}=\frac{\Delta Q_{rye}\Big/\frac{1}{2}(Q_{rye1}+Q_{rye2})}{\Delta P_{rye}\Big/\frac{1}{2}(P_{rye1}+P_{rye2})}=\frac{-50\Big/\frac{1}{2}(2,200+2,150)}{0.20\Big/\frac{1}{2}(2+2.20)}=\frac{-.023}{.095}=-.241$$

The demand for rye bread is inelastic because $\eta_{Q_{rye},P_{rye}}$ is greater than -1 or equivalently $\left|\eta_{Q_{rye},P_{rye}}\right|$ < 1.

Note that this differs from the $\eta_{Q_{rye},P_{rye}}$ = -.234 if we used a 5% increase in the price of rye bread. Why? The reason is that we are working with linear demand curves, for simplicity, and an elasticity varies along linear demand curve.

b) Q = 500 + 1,000 – 250 (2) + 400(3) = 2,200. A 10% increase in the price of wheat bread from \$3 to \$3.30 results in Q = 2,320 for ΔQ = +120. Note that I and P_{rye} are held constant in this calculation. Thus,

$$\eta_{Q_{rye},P_{wheat}}=\frac{\Delta Q_{rye}\Big/\frac{1}{2}(Q_{rye1}+Q_{rye2})}{\Delta P_{wheat}\Big/\frac{1}{2}(P_{wheat1}+P_{wheat2})}=\frac{120\Big/\frac{1}{2}(2,200+2,320)}{0.30\Big/\frac{1}{2}(3+3.30)}=\frac{.053}{.095}=.558$$

Rye and wheat breads are substitutes because $\eta_{Q_{rye},P_{wheat}}$ > 0.

c) Q = 500 + 1,000 – 250 (2) + 400(3) = 2,200. A 10% increase in income from \$1,000 to \$1,100 results in Q = 2,300 for ΔQ = +100. Note that P_{wheat} and P_{rye} are held constant in this calculation. Thus,

$$\eta_{Q_{rye},I}=\frac{\Delta Q_{rye}\Big/\frac{1}{2}(Q_{rye1}+Q_{rye2})}{\Delta I\Big/\frac{1}{2}(I_1+I_2)}=\frac{100\Big/\frac{1}{2}(2,200+2,300)}{100\Big/\frac{1}{2}(1,000+1,100)}=\frac{.044}{.095}=.467$$

Rye bread is a normal good because $\eta_{Q_{rye},I}$ > 0.

Difficulty Level: Hard
Section Reference: The Mathematics Associated with Elasticities
Learning Objective: Explain the mathematics associated with elasticities.