Managerial Economics in a Global Economy 9th edition Salvatore Test Bank

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1. A decline in the supply will cause a change in
   A) the level of quantity demanded.*
   B) the demand.
   C) A and B
   D) None of the above is correct.

2. A decline in the demand will cause a change in
   A) the level of quantity supplied.*
   B) the supply.
   C) A and B
   D) None of the above is correct.

3. Assume that corn and wheat are substitutes in production; that is, the same inputs can be used to produce either one of these two commodities. Also assume that the laws of supply and demand apply in both markets. If the demand for one of these commodities increases, what will likely happen in the other market?
   A) The demand will increase.
   B) The demand will decrease.
   C) The supply will increase.
   D) The supply will decrease.

4. If we notice that an increase in the price of product *X* causes reductions in the demand for product *Y*, then we can conclude that these two products are
   A) complements in consumption.
   B) substitutes in consumption.
   C) complements in production.
   D) substitutes in production.
   E) None of the above is correct.

5. If two goods are complements in consumption, then an increase in the price of one of these goods will cause
   A) the demand for the other good to increase.
   B) the supply of the other good to increase.
   C) the demand for the other good to decrease.
   D) the supply of the other good to decrease.
   E) None of the above is correct.

6. If both supply and demand increase at the same time, then
   A) the price of the product will definitely increase.
   B) the price of the product will definitely decline.
   C) the market-clearing quantity of the product will definitely increase.
   D) the market-clearing quantity of the product will definitely decrease.

7. The management of firm A observed that every time there is an increase in the price charged by firm B, the level of sales of firm A declines. But when firm C increases its price, the level of sales of firm A increases. From this we can conclude that
   A) firms A and B produce substitutes in consumption.
   B) firms A and C produce substitutes in consumption.
   C) firms A and B produce unrelated in consumption products.
   D) firms A and C produce unrelated in consumption products.
   E) None of the above is correct.

8. The law of demand states that
   A) as the price increases the demand increases (shifts outward).
   B) as the price increases the quantity demanded decreases.
   C) as the income level of the consumer increases the quantity demanded increases.
   D) None of the above is correct.

9. A good is normal if a rise in consumers' income causes
   A) the quantity demanded to increase.
   B) the demand to decrease.
   C) the demand to increase.
   D) None of the above is correct.

10. Which of the following statements is incorrect?
   A) In a recession, normal goods manufacturers are expected to have reductions in the demand.
   B) In a recession, inferior goods manufacturers are not expected to have reductions in the demand.
   C) All producers are going to be negatively affected in a recession.
   D) None of the above is correct.

11. In which scenario will both the equilibrium price and quantity increase at the same time?
    A) When supply increases
    B) When both supply and demand increase
    C) When demand increases
    D) When both supply and demand decrease
    E) None of the above is correct.

12. If supply increases while demand decreases
    A) the equilibrium price will definitely increase.
    B) the equilibrium quantity will definitely increase.
    C) the equilibrium price will definitely decrease.
    D) the equilibrium quantity will definitely decrease.

13. If both demand and supply decrease at the same time, then
    A) the equilibrium price will increase.
    B) the equilibrium price will decrease.
    C) the equilibrium quantity will increase.
    D) the equilibrium quantity will decrease.

14. If we assume that the current equilibrium wage for low-skilled labor is $8 per hour and the minimum wage is increased from $5.75 to $7.25 per hour, then
    A) unemployment among low-skilled workers will increase.
    B) unemployment among low-skilled workers will remain unaffected.
    C) unemployment among low-skilled workers will decrease.

15. What would your answer to the previous question be if the current market-clearing wage equaled $7.00?
    A) The unemployment would increase.
    B) The unemployment would remain the same.
    C) The unemployment would decrease.
    D) None of the above is correct.

16. When rent controls are imposed below the current market price they can do all except
    A) increase the quantity of rental housing demanded.
    B) reduce the quality of rental housing.
    C) reduce the level of supply of rental housing.
    D) create excess supply of rental housing.

17. When rent control is imposed above the current market price it will
    A) increase the quantity of rental housing demanded.
    B) reduce the quality of rental housing.
    C) create a shortage of rental housing.
    D) create no impact on the market.

18. Assume that the price of *X* decreases and as a result of that the demand for *Y* increases while the demand for *Z* decreases. From this we can conclude that
    A) goods *X* and *Y* are substitutes in consumption.
    B) goods *X* and *Z* are substitutes in consumption.
    C) goods *Y* and *Z* are complements in consumption.
    D) None of the above is correct.

19. Which of the following best describes a normal good?
    A) An increase in the price of the product leads to an increase in the level of quantity demanded.
    B) A reduction in the price of the product leads to a decrease in the level of quantity demanded.
    C) An increase in the consumer's income causes a decrease in the demand.
    D) A reduction in the consumer's income causes an increase in the demand.
    E) None of the above is correct.

20. If we assume the following scenario: as the average income of the consumer increases the demand for "fast" food decreases, then we can assume that "fast" food is
    A) a normal good.
    B) an inferior good.
    C) None of the above is correct.

21. Which of the following will <u>not</u> be a consequence of an import tariff?
    A) An increase in the price of the product in the domestic market
    B) Reduced competitive pressure by foreign firms on the domestic producers
    C) Increased level of supply in the domestic market
    D) None of the above is correct.

22. What is the effect of an increase in the price of fuel on the transportation services market where fuel is an input?
    A) The demand will increase.
    B) The demand will decrease.
    C) The supply will increase.
    D) The supply will decrease.

23. eBay shoppers are frequently asked by eBay sellers to pay the cost of shipping the purchased item. Who really pays the shipping cost in eBay transactions?
    A) The buyer
    B) The seller
    C) Both parties are likely to share the cost.
    D) eBay corporation

24. Excess supply causes the price to
    A) increase.
    B) fall.
    C) remain unchanged.

25. Excess demand causes the price to
    A) increase.
    B) fall.
    C) remain unchanged.

26. Technological progress helps increase the productivity of labor, defined as the number of units of output produced per hour of labor. A rise in the productivity of labor in the production process, *ceteris paribus*, will cause
    A) the demand for the output to increase.
    B) the demand for the output to decrease.
    C) the supply of the output to increase.
    D) the supply of the output to decrease.
    E) None of the above is correct.

27. At the equilibrium price
    A) quantity demanded exceeds quantity supplied.
    B) quantity demanded equals quantity supplied.
    C) quantity demanded is less than quantity supplied.

28. If we observe a rise in the equilibrium price and a decline in the equilibrium quantity, then which of the following must have happened?
    A) Both demand and the supply must have increased.
    B) Both demand and the supply must have decreased.
    C) The demand increased while the supply remained unchanged.
    D) The supply increased while the demand remained the same.
    E) None of the above is correct.

29. Which of the following developments in the housing market will help increase housing prices?
    A) A rise in the supply
    B) A decline in the supply
    C) A decline in the demand
    D) None of the above is correct

30. Under which scenario will sellers of a product find it easier to pass cost increases onto consumers?
    A) When the demand curve is vertical
    B) When the demand curve is downward sloping
    C) When the demand curve is horizontal
    D) None of the above is correct, as the shape of the demand plays no role in this process.

31. In 2011, the total amount of farm aid provided by government was the largest in
    A) The United States
    B) Japan
    C) The European Union
    D) It was the same in the United States, Japan, and the European Union

32. Which of the following is not a characteristic of a nonclearing market?
    A) Economic agents react to price signals only
    B) Economic agents react to price and quantity signals
    C) A disequilibrium in one market can create spillover effects in a related market
    D) A presence of excess demand or excess supply

33. Presence of unemployment implies all except
    A) The labor market clears
    B) There exists an excess supply of labor
    C) The labor market is an example of a non-clearing market
    D) The quantity of labor supplied exceeds the quantity of labor demanded

34. The market demand curve shows
    A) the effect on market supply of a change in the demand for a good or service.
    B) the quantity of a good that consumers would like to purchase at different prices.*
    C) the marginal cost of producing and selling different quantities of a good.
    D) the effect of advertising expenditures on the market price of a good.

(p.43, factual, correct answer: B)

35. At a price of $4.95, a pulp fiction novel is expected to sell 9,000 copies. If the novel is offered for sale at a price of $3.95, then the publisher can expect to sell
    A) fewer than 9,000 copies.
    B) 9,000 copies.
    C) more than 9,000 copies.*
    D) It is impossible to predict the effect of a lower price on sales.

(p.44, applied, correct answer: C)

36. During a recession, economies experience increased unemployment and a reduced level of activity. How would a recession be likely to affect the market demand for new cars?
    A) Demand will shift to the right.
    B) Demand will shift to the left.*
    C) Demand will not shift, but the quantity of cars sold per month will decrease.
    D) Demand will not shift, but the quantity of cars sold per month will increase.

(p.44, conceptual, correct answer: B)

37. The market supply curve shows
    A) the effect on market demand of a change in the supply of a good or service.
    B) the quantity of a good that firms would offer for sale at different prices.*
    C) the quantity of a good that consumers would be willing to buy at different prices.
    D) All of the above are correct.

(p.45, factual, correct answer: B)

38. At a price of $299.99, the manufacturer of a portable air conditioner is willing to produce 19,000 units per quarter. At a price of $349.99, it is likely that the manufacturer will be willing to produce
    A) more than 19,000 units per quarter.*
    B) 19,000 units per quarter.
    C) fewer than 19,000 units per quarter.
    D) It is impossible to predict the effect of a higher price on the number of units of a product that a firm will be willing to produce.

(p.46, applied, correct answer: A)

39. Unionized workers may be able to negotiate with management for higher wages during periods of economic prosperity. Suppose that workers at automobile assembly plants successfully negotiate a significant increase in their wage package. How would the new wage contract be likely to affect the market supply of new cars?
    A) Supply will shift to the right.
    B) Supply will shift to the left.*
    C) Supply will not shift, but the quantity of cars produced per month will decrease.
    D) Supply will not shift, but the quantity of cars produced per month will increase.

(p.47, conceptual, correct answer: B)

40. If automobile manufacturers are producing cars faster than people want to buy them,
    A) there is an excess supply and price can be expected to decrease.*
    B) there is an excess supply and price can be expected to increase.
    C) there is an excess demand and price can be expected to decrease.
    D) there is an excess demand and price can be expected to increase.

(p.48, applied, correct answer: A)

41. If a computer hardware company introduces a new ultra-thin laptop and finds that orders far exceed the number of units that are being produced,
    A) there is an excess supply and price can be expected to decrease.
    B) there is an excess supply and price can be expected to increase.
    C) there is an excess demand and price can be expected to decrease.
    D) there is an excess demand and price can be expected to increase.*

(p.48, applied, correct answer: D)

42. Market equilibrium refers to a situation in which market price
    A) is high enough to allow firms to earn a fair profit.
    B) is low enough for consumers to buy all that they want.
    C) is at a level where there is neither a shortage nor a surplus.*
    D) is just above the intersection of the market supply and demand curves.

(p.49, factual, correct answer: C)

43. If the price of a good increases while the quantity of the good exchanged on markets increases, then the most likely explanation is that there has been
    A) an increase in demand.*
    B) a decrease in demand.
    C) an increase in supply.
    D) a decrease in supply.

(p.50, conceptual, correct answer: A)

44. If the price of a good decreases while the quantity of the good exchanged on markets increases, then the most likely explanation is that there has been
    A) an increase in demand.
    B) a decrease in demand.
    C) an increase in supply.*
    D) a decrease in supply.

(p.51, conceptual, correct answer: C)

45. If the price of a good increases while the quantity of the good exchanged on markets decreases, then the most likely explanation is that there has been
    A) an increase in demand.
    B) a decrease in demand.
    C) an increase in supply.
    D) a decrease in supply.*

(p.51, conceptual, correct answer: D)

46. If the price of a good decreases and the quantity of the good exchanged on markets decreases, then the most likely explanation is that there has been
    A) an increase in demand.
    B) a decrease in demand.*
    C) an increase in supply.
    D) a decrease in supply.

(p.50, conceptual, correct answer: B)

47. An increase in the demand for a good will cause
    A) an increase in equilibrium price and quantity.*
    B) a decrease in equilibrium price and quantity.
    C) an increase in equilibrium price and a decrease in equilibrium quantity.
    D) a decrease in equilibrium price and an increase in equilibrium quantity.

(p.50, conceptual, correct answer: A)

48. An increase in the supply of a good will cause
    A) an increase in equilibrium price and quantity.
    B) a decrease in equilibrium price and quantity.
    C) an increase in equilibrium price and a decrease in equilibrium quantity.
    D) a decrease in equilibrium price and an increase in equilibrium quantity.*

(p.51, conceptual, correct answer: D)

49. Which of the following statements about the market is correct?
    A) Market may or may not be a physical location.
    B) There is a market for each good and service.
    C) Some markets are local, some are regional, others are national.
    D) All of the above are correct.*

(p.42, factual, correct answer: D)

50. Which of the following is a feature of perfectly competitive market?
    A) There are many buyers and sellers.*
    B) Not all goods are homogeneous.
    C) Resources are static.
    D) Knowledge of the market is imperfect.

(p.42, factual, correct answer: A)

51. Assuming that price is above the equilibrium price, which of the following is correct?
    A) There will be upward pressure until the price reaches the equilibrium price.
    B) There will be downward pressure until the price reaches the equilibrium price.*
    C) There might be upward or downward pressure on price.
    D) There will be no pressure on price.

(p.48, conceptual, correct answer: B)

52. Assuming that price is below the equilibrium price, which of the following is correct?
    A) There will be upward pressure until the price reaches the equilibrium price.*
    B) There will be downward pressure until the price reaches the equilibrium price.
    C) There might be upward or downward pressure on price.
    D) There will be no pressure on price.

(p.48, conceptual, correct answer: A)

53. If there is a shortage in a rental market, what is expected?
    A) Rental prices to be decreasing until shortage is eliminated.
    B) Rental prices to be increasing until shortage is eliminated.*
    C) Rental prices to either be increasing or decreasing.
    D) Rental prices to stay the same.

(p.49, conceptual, correct answer: B)

54. If there is a surplus in a housing market, what can be expected?
    A) Housing prices to be decreasing until shortage is eliminated.*
    B) Housing prices to be increasing until shortage is eliminated.
    C) Housing prices to either be increasing or decreasing.
    D) Housing prices to stay the same.

(p.49, conceptual, correct answer: A)

55. If the price in the U.S. is higher than the price of identical good abroad before trade, after opening trade which of the following should occur?
    A) U.S. should export the good.
    B) U.S. should import the good.*
    C) U.S. should both import and export the good.
    D) U.S. should not trade.

(p.54, applied, correct answer: B)

56. Which of the following is correct about imports of goods and services from abroad?
    A) Imports of goods and services increases the price for domestic consumers.
    B) Imports of goods and services does not change the price for domestic consumers.
    C) Imports of goods and services decreases the price for domestic consumers.*
    D) It is impossible to tell without additional information.

(p.55, conceptual, correct answer: C)

57. What happens if the price ceiling is set above equilibrium price?
    A) It keeps the prices lower than they would be otherwise.
    B) It keeps the prices higher than they would be otherwise.
    C) Price increases despite price ceiling.
    D) Nothing happens, effective price ceiling needs to be below equilibrium price.*

(p.56, conceptual, correct answer: D)

58. For the price floor to be effective, it needs to be set
    A) above the equilibrium price.*
    B) below the equilibrium price.
    C) exactly at the equilibrium price.
    D) anywhere.

(p.58, conceptual, correct answer: A)

59. Import tariffs on a good or a service do all of the following, except
    A) increase the equilibrium price in the domestic market.
    B) increase the equilibrium quantity sold in the domestic market.*
    C) helps the domestic producers.
    D) raises government revenue.

(p.58, conceptual, correct answer: B)

60. How is a Dutch auction conducted?
    A) Starts with a low price. Participants bid up the price until only one is left.
    B) Starts with a high price. Price is reduced until one participant accepts it.*
    C) Participants submit their prices in envelopes. Highest bidder wins.
    D) There is no such thing as a Dutch Auction.

(p.50, factual, correct answer: B)

61. How is a Danish auction conducted?
    A) Starts with a low price. Participants bid up the price until only one is left.
    B) Starts with a high price. Price is reduced until one participant accepts it.
    C) Participants submit their prices in envelopes. Highest bidder wins.
    D) There is no such thing as a Danish auction.*

(p.50, factual, correct answer: D)

62. An economic recession with a decline in household incomes will negatively impact all retail businesses.
    A) True
    B) False

63. In a perfectly competitive market no individual producer or consumer can change the market price.
    A) True
    B) False

64. Assume that consumers who shop for single-family homes do not consider condos. Also assume that consumers who wish to purchase condos do not look at single-family homes. Based on these assumptions we can argue that these are two different markets.
    A) True
    B) False

65. Consumer financing has become a common factor in the retail auto market; thus, any increases in the interest rate on car loans would cause the demand for cars to decline.
    A) True
    B) False

66. A downward-sloped demand curve is consistent with the law of demand.
    A) True
    B) False

67. Commodities play an integral role in many production processes. If the global economy experiences a rapid expansion, then, all else held constant, commodity prices should be expected to increase.
    A) True
    B) False

68. When the supply curve shifts up (supply declines), the equilibrium quantity falls, which means the demand declines.
    A) True
    B) False

69. If consumers in country A purchase many imported-from-country-B goods, and these imported goods are perceived by country A consumers as normal goods, then a recession accompanied by a decline in consumer incomes in country A can spread into country B.
    A) True
    B) False

70. If consumers in country A purchase many imported-from-country-B goods, and these imported goods are perceived by country A consumers as inferior goods, then a recession (which in this case is defined as a decline in consumer incomes) in country A can spread into country B.
    A) True
    B) False

71. If public transportation is a substitute to driving and downtown parking is a complementary service to driving, then a rise in the price of downtown parking will cause the supply of public transportation to increase.
    A) True
    B) False

72. International trade in the absence of restrictions and transportation costs leads to price equalization for internationally traded goods, meaning that the domestic price equalizes with the price abroad.
    A) True
    B) False

73. When costs of production of a product increase, the equilibrium level of output of that product decreases, assuming that the demand is consistent with the law of demand.
    A) True
    B) False

74. Recently eBay started to introduce controls in some of its categories on what the sellers can charge in terms of shipping. This policy might be necessary to protect the buyers because the economic incidence of shipping charges is entirely on the buyer.
    A) True
    B) False

75. If we assume that the demand for oil in oil importing countries is nearly vertical, then the economic incidence of oil export tariffs imposed by oil exporting countries mainly falls onto oil consumers in oil importing countries.
    A) True
    B) False

76. Minimum wage is an example of a price floor.
    A) True
    B) False

77. A minimum wage set below the market equilibrium wage will result in higher unemployment.
    A) True
    B) False

78. An excess supply occurs at prices below the equilibrium price.
    A) True
    B) False

79. If we define unemployment as a surplus of labor, then a minimum wage set above the market-clearing wage will increase the level of unemployment.
    A) True
    B) False

80. A positive excess demand can only be observed at prices above the market equilibrium price.
    A) True
    B) False

81. The cost of protection of domestic jobs from foreign competition is usually paid by domestic consumers in the form of higher prices on imported goods.
    A) True
    B) False

82. Non-clearing markets often have spillover effects into related markets. For example, when a concert promoter deliberately sets the ticket price below the market equilibrium price, this may result in greater sales of the performer's recordings.
    A) True
    B) False

83. Selling a product below its equilibrium price may be a profit maximizing strategy for a firm if it leads to a desired spillover effect in another market where the firm operates.
    A) True
    B) False

84. In 2011, in the United States, Japan, and the European Union, the government subsidies constituted more than half of the price received by farmers for some crops.
    A) True
    B) False

85. Dutch auction is also known as an ascending-price auction.
    A) True
    B) False*

(p.50, factual, correct answer: B)

86. A price ceiling below the equilibrium price may lead to shortage of a good, black markets and other undesirable consequences.
    A) True*
    B) False

(p.57, p.62, conceptual, correct answer: A)

87. Market equilibrium tends to persist in time as long as demand or supply of a commodity does not change.
    A) True*
    B) False

(p.49, conceptual, correct answer: A)

88. Sometimes firms conduct experiments where they temporarily change prices (this may be done with selective coupons and other discounting methods) to see how the consumer responds to a price change. Let's assume that our firm charges $10 per unit of output and on average has 600 units sold per day. However, for the last week the firm offered a $1 discount and charged only $9 per unit of output. During the week of the discount the firm observed that the average daily sales were 700 units.

(i) If we operate under the assumption of *ceteris paribus*, what is the best linear representation of the demand faced by the firm [please provide the equation for the demand in terms of $Q = f(P)$].

(ii) If we continue to operate under the assumption that the demand is linear, what prediction can you make about the firm's level of sales at the price of $8?

89. Assume that the demand is governed by the function $Q_D = 30 - 2P$
Using this demand equation complete the demand schedule table below:

Price	Quantity Demanded
5	
6	
7	
8	
9	
10	

90. Assume that the market demand and the market supply are governed by the following equations:

$Q_D = 80 - 4P$
$Q_S = 6P$

(i) Is the demand consistent with the law of demand? Please justify your answer.

(ii) Is the supply consistent with the law of supply?

(iii) What would be the equilibrium price and quantity in this market?

91. Assume that the demand is estimated to be:

$$Q_D = 100 + 0.01Income - 2P$$

(i) Is this demand equation consistent with the law of demand?

(ii) Is this a demand for a normal good?

(iii) Construct the demand schedule for this demand, evaluated at two different income levels (I = 1000, and I = 2000), using the table below:

Price	Quantity Demanded Income = 1000	Quantity Demanded Income = 2000
10		
20		
30		
40		
50		

92. Assume that the demand for product X is represented by the following equation:

$$Q_{DX} = 1000 - 10P_X - 5P_Y + 2P_Z$$

Which of the products Y and Z is a substitute to X in consumption?

93. Assume that the demand is represented by the following equation:

$$Q_D = 100 + 0.01Income - 3P$$

Also assume that the supply is represented by the following equation:

$$Q_S = P - 10$$

(i) Assume that the consumer income is $3,000. Please compute the market equilibrium price and quantity.

(ii) Now, assume that the economy goes into a recession and the consumer's income declines to $2,000. What will the new equilibrium values be now?

94. Assume that the demand and the supply in a market are represented by the following equations:

$Q_D = 100 - 3P$
$Q_S = 2P - 10$

(i) Compute the market equilibrium in this case.

(ii) If the government were to introduce an excise tax of $1 per unit of output, what would the new equilibrium be? What would the economic incidence of this tax be?

95. Assume that the demand is governed by the function $Q_D = 20 - 2P$.
Using this demand equation complete the demand schedule table below:

Price	Quantity Demanded
1	
2	
3	
4	
5	
6	

96. Assume that the market demand and the market supply are governed by the following equations:

$$Q_D = 30 - 2P$$
$$Q_S = 3P$$

(i) Is the demand consistent with the law of demand? Please justify your answer.
(ii) Is the supply consistent with the law of supply?
(iii) What would be the equilibrium price and quantity in this market?

97. Assume that the market demand and the market supply are governed by the following equations:

$$Q_D = 20 + 2P$$
$$Q_S = 10 - 2P$$

(i) Is the demand consistent with the law of demand? Please justify your answer.
(ii) Is the supply consistent with the law of supply?

98. Assume that the demand is estimated to be:

$$Q_D = 50 + 0.1Income - P$$

(i) Is this demand equation consistent with the law of demand?
(ii) Is this a demand for a normal or inferior good?
(iii) Construct the demand schedule for this demand, evaluated at two different income levels (I = 100, and I = 200), using the table below:

Price	Quantity Demanded Income = 100	Quantity Demanded Income = 200
10 20 30 40 50		

99. Assume that the demand is estimated to be:

$$Q_D = 200 - 0.1Income - 2P$$

(i) Is this demand equation consistent with the law of demand? Explain your answer.
(ii) Is this a demand for a normal or inferior good?
(iii) Construct the demand schedule for this demand, evaluated at two different income levels (I = 100, and I = 200), using the table below:

Price	Quantity Demanded Income = 100	Quantity Demanded Income = 200
5 10 15 20 25		

100. Assume that the demand for a specific tablet computer (X) is represented by the following equation:

$$Qd_X = 2000 - 20P_X + 10P_Y - 20P_Z$$

Which of the products Y and Z is a substitute to tablet computer? Which of the products is a complement?

101. Assume that the demand for an electric toothbrush (X) is represented by the following equation:

$$QD_X = 1000 - 10P_X - 5P_Y + 2P_Z$$

Which of the products Y and Z is a substitute and which of them is a complement to an electric toothbrush? Give examples for goods Y and Z.

102. Assume that the demand is represented by the following equation:

$$Q_D = 500 + 0.05Income - 5P$$

Also assume that the supply is represented by the following equation:

$$Q_S = 5P - 50$$

(i) Assume that the consumer income is $1,000. Please compute the market equilibrium price and quantity.
(ii) Now, assume that the consumer's income increases to $2,000. What will the new equilibrium values be now?
(iii) Graph the old and the new equilibrium and all the necessary curves.

103. Assume that the demand is represented by the following equation:

$$Q_D = 50 + 0.1Income - 2P$$

Also assume that the supply is represented by the following equation:

$$Q_S = 2P - 30$$

(i) Assume that the consumer income is $1,000. Please compute the market equilibrium price and quantity.
(ii) Now, assume that the economy goes into a recession and the consumer's income decreases to $600. What will the new equilibrium values be now?
(iii) Graph the old and the new equilibrium and all the necessary curves.

104. Assume that the demand and the supply in a market are represented by the following equations:

$$Q_D = 40 - 2P$$
$$Q_S = 4P - 20$$

(i) Compute the market equilibrium in this case.
(ii) If the government were to introduce an excise tax of $1.00 per unit of output, what would the new equilibrium be? What would the economic incidence of this tax be?

105. Assume that the demand and the supply in a market are represented by the following equations:

$$Q_D = 200 - 5P$$
$$Q_S = 5P - 10$$

(i) Compute the market equilibrium in this case.
(ii) If the government were to introduce an excise tax of $2 per unit of output, what would the new equilibrium be? What would the economic incidence of this tax be?

106. Given the market demand schedule and the market supply schedule for hot dogs, graph the demand and the supply curves and indicate the equilibrium value. What is the equilibrium quantity and price?

$	Q_D
1	100
2	80
3	60
4	40

$	Q_S
1	20
2	40
3	60
4	80

5	20	5	100

107. Given the market demand schedule and the market supply schedule for hot dogs, graph the linear demand and the liner supply curves and indicate the equilibrium value. What is the equilibrium quantity and price? [Hint: linear function can be expressed as: $y = a + bx$]

$	Q_D	$	Q_S
0	100	0	0
5	0	5	100

Answer Key

1. A
2. A
3. D
4. A
5. C
6. C
7. B
8. B
9. C
10. C
11. C
12. C
13. D
14. B
15. A
16. D
17. D
18. B
19. E
20. B
21. C
22. D
23. C
24. B
25. A
26. C
27. B
28. E
29. B
30. A
31. C
32. A
33. A
34. B
35. C
36. B
37. B
38. A
39. B
40. A
41. D
42. C
43. A
44. C

45. D
46. B
47. A
48. D
49. D
50. A
51. B
52. A
53. B
54. A
55. B
56. C
57. D
58. A
59. B
60. B
61. D
62. B
63. A
64. A
65. A
66. A
67. A
68. B
69. A
70. B
71. B
72. A
73. A
74. B
75. A
76. A
77. B
78. B
79. A
80. B
81. A
82. A
83. A
84. A
85. B
86. A
87. A
88. (i) The general form of the demand function is $Q = a + bP$. Note that I do not insert the negative sign in front of *b*, because the computation of the slope will determine the sign of *b*. In other words, in the case of the demand, due to the law of demand, the sign

of b will be negative.

The slope of the demand function can be computed as follows:

$$b = \frac{\Delta Q}{\Delta P} = \frac{600 - 700}{10 - 9} = -100$$

To compute the intercept (a) we need to solve the general form for a and evaluate it at any one of the known points on the function. We have two known points: $P = 10$ and $Q = 600$, and $P = 9$ and $Q = 700$:

$$a = Q - bP = Q - (-100)P = Q + 100P = 600 + (100 * 10) = 600 + 1000 = 1600$$

We would have obtained the same result using the second point:

$$a = Q + 100P = 700 + (100 * 9) = 700 + 900 = 1600$$

Thus, the demand function can be written as:

$$Q_D = 1600 - 100P$$

(ii) Using the demand function obtained in part i and evaluating it at $P = 8$ we get:

$$Q_D = 1600 - (100 * 8) = 1600 - 800 = 800$$

The predicted level of output sales is 800.

89.

Price	Quantity Demanded
5	20
6	18
7	16
8	14
9	12
10	10

90. (i) Yes, the law of demand states that as the price increases, the quantity demanded decreases. We see that relationship in the negative sign of the price term in the demand equation.

(ii) Yes, the law of supply states that at higher prices producers will be willing to supply higher quantities of output. That relationship is captured in the positive sign of the price term in the supply equation.

(iii) In equilibrium quantity demanded equals quantity supplied; therefore:

$$Q_D = Q_S$$
$$80 - 4P = 6P$$

$$80 = 10P$$
$$P = \frac{80}{10} = 8$$

The equilibrium price is 8. This is the price when the market clears.

To obtain the equilibrium quantity we need to plug in the equilibrium price value that we have just computed into either the demand or the supply function. Plugging into the supply function leads to:

$$Q_S = 6P = 6 * 8 = 48$$

The equilibrium quantity is 48. The same results would be obtained by plugging the price into the demand equation.

91. (i) Yes, the sign on the price term is negative, implying that as the price increases, quantity demanded declines.

(ii) Yes. The sign on the income term is positive, suggesting that at higher consumer income levels we would observe higher levels of demand.

(iii)

Price	Quantity Demanded Income = 1000	Quantity Demanded Income = 2000
10	90	100
20	70	80
30	50	60
40	30	40
50	10	20

92. *Z*. As the price of *Z* increases, the demand for *X* increases.

93.. (i) You have two equations and three variables, so this requires a simplification. First, you need to plug in a value for income into the demand equation. That will simplify the problem to two equations and two variables. By plugging in $3,000 for income we will obtain:

$$Q_D = 100 + 0.01 * 3000 - 3P = 100 + 30 - 3P = 130 - 3P$$

Setting the quantity demanded equal to the quantity supplied:

$$130 - 3P = P - 10$$
$$130 + 10 = P + 3P$$
$$140 = 4P$$
$$P = \frac{140}{4} = 35$$

To compute the equilibrium quantity, just plug the computed equilibrium price into either the demand or the supply function.

$Q_S(P=35)=35-10=25$
$Q_S(P=35)=130-3*35=130-105=25$

(ii) Recompute the demand function using the new level of income:

$Q_D=100+0.01*2000-3P=100+20-3P=120-3P$

Now, solving for the new equilibrium:

$Q_D=Q_S$
$120-3P=P-10$
$120+10=4P$
$P=\frac{130}{4}=32.5$
$Q^{eq}=32.5-10=22.50$

94. (i)
$100-3P=2P-10$
$110=5P$
$P=110/5=22$
$Q^{eq}=100-3P=34$

(ii) The first step is to express the supply and demand functions in terms of price (invert these functions).

Demand:

$P=\frac{100}{3}-\frac{Q_D}{3}$ This is a willingness-to-pay function, as it describes how much the consumer is willing to pay for a given quantity demanded.

Supply:

$P=5+\frac{Q_S}{2}$

The second step is to recognize that a sales tax is simply an additional cost. We can incorporate it into either of the functions. Let us include it in the supply equation by computing the supply function inclusive of the tax:

$$P^{tax} = 5 + \frac{Q}{2} + tax = 5 + \frac{Q}{2} + 1 = 6 + \frac{Q}{2}$$

Let us compute the equilibrium price inclusive of the tax by setting the new effective supply function to the original demand. Note that by doing this we will compute the equilibrium price inclusive of the tax.

$$6 + \frac{Q^{eq}}{2} = \frac{100}{3} - \frac{Q^{eq}}{3}$$
$$Q = \frac{82}{3} \times \frac{6}{5} = 32.8$$
$$P^{tax} = 6 + \frac{32.8}{2} = 22.40$$

This is the price that is inclusive of the tax; therefore, it is the total cost paid by the consumer (price + per-unit tax). The seller then remits $1 (per-unit tax) to the government. This means that the price that the seller collects is only $21.40.

The pretax price was $22, which means that the economic incidence of the $1 tax on the consumer is $0.40, or 40 percent. This is how much more the consumer has to pay for the product due to the tax. The economic incidence on the seller is $0.60, or 60 percent. This is how much the seller was forced to lower the price by due to the imposition of the tax.

95.

Price	Quantity Demanded
1	20-2(1)=18
2	20-2(2)=16
3	14
4	12
5	10
6	8

96. (i) Yes, the sign on the price term is negative, implying that as the price increases, quantity demanded declines just as law of demand postulates.

(ii) Yes, the law of supply states that at higher prices producers will be willing to supply higher quantities of output. That relationship is captured in the positive sign of the price term in the supply equation.

(iii) The equilibrium price is 6 and the quantity is 18

$$Q_D = Q_S \rightarrow \quad 30 - 2P = 3P$$
$$5P = 30 \rightarrow \quad P = 6$$
$$Q_D = 30 - 2(6) = 30 - 12 = 18$$

97. (i) No, the sign on the price term is positive instead of negative, implying that as the price increases, quantity demanded increases. This could be a result of a snob effect.

(ii) No, the law of supply states that at higher prices producers will be willing to supply

higher quantities of output. However, instead of a positive sign of the price term, we see a negative.

98. (i) Yes, the sign on the price term is negative, implying that as the price increases, quantity demanded declines just as law of demand postulates.

(ii) This demand is for a normal good. At higher consumer income levels, we would observe higher levels of demand of this normal good. This is due to the positive term for INCOME. For inferior good, higher income leads to a decrease in consumption of that (inferior) good.

(iii) The table shown below.

Price	Quantity Demanded Income = 100	Quantity Demanded Income = 200
10	50	60
20	40	50
30	30	40
40	20	30
50	10	20

99. (i) Yes, the sign on the price term is negative, implying that as the price increases, quantity demanded declines just as law of demand postulates.

(ii) This demand is for an inferior good. At higher consumer income levels, we would observe lower levels of demand of this good. This is due to the negative term for INCOME. For a normal good, higher income leads to an increase in demand of that good.

(iii) The table shown below.

Price	Quantity Demanded Income = 100	Quantity Demanded Income = 200
5	180	170
10	170	160
15	160	150
20	150	140
25	140	130

100. $$Qd_X = 2000 - 20P_X + 10P_Y - 20P_Z$$

The positive term for P_Y implies that if price of good Y increases, the demand for good X increases. This must mean that goods X and Y are substitutes in consumption. For example, substitute for tablet computers are small laptops. If a price of laptops increases, then people are more likely to switch to tablets.
The negative term of P_Z implies that if the prize of a good Z increases, the demand for good X decreases. This means that goods X and Z must be complements in consumption. For example, it could be accessory of tablet. If accessories for the tablet become much more expensive, consumer might buy neither the tablet, nor the accessories.

101. Good Y is a complement. As the price of good Y increases, the demand for good X

decreases. This means the two goods are usually bought together. For example, a complement for an electric toothbrush are batteries to run the toothbrush.
Good Z is a substitute. As the price of good Z increases, the demand for good X increases which means people switch from more expensive to less expensive good. For electric toothbrush, a substitute is a standard toothbrush.

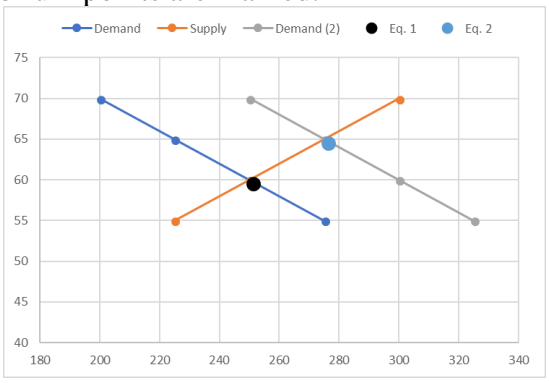
102. (i) Equilibrium price is 60 and the quantity is 250.

$$500 + 0.05(1000) - 5P = 5P - 50$$
$$10P = 600 \rightarrow \quad P = 60$$
$$Q = 5(60) - 50 = 300 - 50 = 250$$

(ii) Equilibrium price is 65 and the quantity is 275.

$$500 + 0.05(2000) - 5P = 5P - 50$$
$$10P = 650 \rightarrow \quad P = 65$$
$$Q = 5(65) - 50 = 325 - 50 = 275$$

(iii) Graph of the old and the new demand curves and the supply curve is provided. The old and the new equilibrium points are marked.



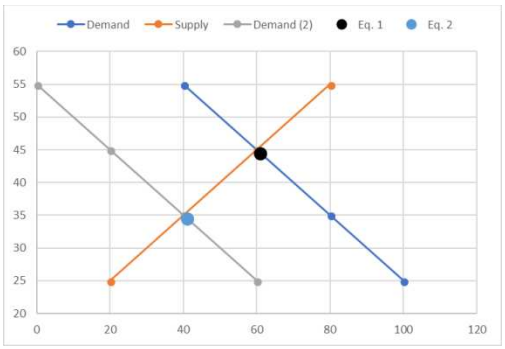
103. (i) Equilibrium price is 45 and the quantity is 60.

$$50 + 0.1(1000) - 2P = 2P - 30$$
$$4P = 180 \rightarrow \quad P = 45$$
$$Q = 2(45) - 30 = 90 - 30 = 60$$

(ii) Equilibrium price is 35 and the quantity is 40.

$$50 + 0.1(600) - 2P = 2P - 30$$
$$4P = 140 \rightarrow \quad P = 35$$
$$Q = 2(35) - 30 = 70 - 30 = 40$$

(iii) Graph of the old and the new demand curves and the supply curve is provided. The old and the new equilibrium points are marked.



104. (i) Equilibrium price is 10 and the quantity is 20.

$$Q_D = Q_S$$
$$40 - 2P = 4P - 20 \rightarrow \quad 6P = 60 \quad \rightarrow \quad P = 10$$
$$Q_D = 40 - 2(10) = 40 - 20 = 20$$

(ii) First, we invert these functions:

$$Q_D = 40 - 2P \rightarrow \quad P = 20 - \frac{Q_D}{2}$$
$$Q_S = 4P - 20 \rightarrow \quad P = 5 + \frac{Q_S}{4}$$

Add the tax to one of the functions (let's assume that sellers are taxed):

$$P^{tax} = 5 + \frac{Q_S}{4} + tax = 5 + \frac{Q_S}{4} + 1 = 6 + \frac{Q_S}{4}$$

Next, we find the equilibrium by setting the two equations as follows.

$$6 + \frac{Q}{4} = 20 - \frac{Q}{2} \quad \rightarrow \quad Q = 18.67$$
$$P^{tax} = 6 + \frac{18.67}{4} = 10.67$$

We see that the price has increased from \$10 to \$10.67 for the consumers. This means that the consumers are paying \$0.67 or 2/3 of the tax. The sellers must remit \$1.00 to the government, which means that the economic incidence of the \$1 tax on the seller is \$0.33, or 1/3 of the tax. This is how much the seller was forced to lower the price by due to the imposition of the tax.

105. (i) Equilibrium price is 21 and the quantity is 95.

$$Q_D = Q_S$$
$$200 - 5P = 5P - 10 \rightarrow \quad 10P = 210 \quad \rightarrow \quad P = 21$$
$$Q_D = 200 - 5(21) = 200 - 105 = 95$$

(ii) Invert the functions:

$$Q_D = 200 - 5P \rightarrow \quad P = 40 - \frac{Q_D}{5}$$
$$Q_S = 5P - 10 \rightarrow \quad P = 2 + \frac{Q_S}{5}$$

Add the tax to one of the functions (let's assume that sellers are taxed):

$$P^{tax} = 2 + \frac{Q_S}{5} + tax = 2 + \frac{Q_S}{5} + 2 = 4 + \frac{Q_S}{5}$$

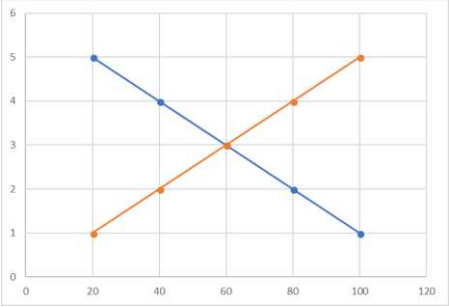
Next, we find the equilibrium by setting the two equations as follows.

$$4 + \frac{Q}{5} = 40 - \frac{Q}{5} \quad \rightarrow \quad Q = 90$$

$$P^{tax} = 4 + \frac{90}{5} = 22$$

By comparing the two prices, the old price (pre-tax) and after-tax price, we see that the price has increased from \$21 to \$22. Since sellers need to pay \$2 tax to the government per unit, but they increased the price just by \$1, it means that the economic incidence on the seller is \$1, or 50%. The buyers must pay \$1 more, so the incidence on the buyer is 50%. Both sellers and buyers share equally the economic incidence of the tax.

106. The equilibrium price is \$3 and the quantity is 60.



107. The equilibrium price is \$2.5 and the quantity is 50.