1. Which of the following is a characteristic of a monopoly firm?
   A) easy entry and exit
   B) barriers to entry
   C) vertical individual demand curve
   D) many buyers and sellers

2. Papabear Corporation is a single seller of Wonderstuff. There are two substitutes for Wonderstuff. Given this situation, Papabear:
   A) cannot be a monopoly because there are substitutes for Wonderstuff.
   B) cannot be a monopoly because two substitutes make it a competitive market.
   C) can still be a monopoly because it is unknown if the two substitutes are close substitutes.
   D) acts as if it were competitive and takes the price set in the market.

3. Barriers to entry allow some monopolists to:
   A) earn economic profits in the long run.
   B) convince the government into providing special favors for themselves.
   C) charge as high a price as they want.
   D) make people buy more of a good than they really want.

4. A natural monopoly could possibly arise when:
   A) there are large economies of scale relative to the industry's demand.
   B) the government allows unrestricted access to a market.
   C) there are diseconomies of scale in an industry.
   D) companies band together to form a larger company.

5. An example of natural monopoly would be which of the following firms/industries?
   A) the beer industry
   B) Pabst Brewing Company
   C) the market for cotton
   D) a residential electricity company
6. Which of the following is NOT an example of natural monopoly?
   A) the chemical industry
   B) the local newspaper
   C) the railroad industry
   D) electric utilities

Use the following to answer question 7:

**Figure: Monopoly Pricing and Output Decisions**

7. (Figure: Monopoly Pricing and Output Decisions) Using the graph, what is the equilibrium price for this monopolist?
   A) $12
   B) $16
   C) $20
   D) $30

8. Which of the following statements is NOT true in determining the equilibrium price and output for a monopolist?
   A) Monopolists use the MR = MC rule to determine optimal price and output levels.
   B) Monopolists do not always make a profit.
   C) Monopolists select the price that is equal to average total cost.
   D) Price is determined from the demand curve.
9. An important difference between a perfectly competitive firm and a monopolist is:
   A) the size of the industry.
   B) the primary objective of the firms.
   C) the price it charges to sell additional units of a good.
   D) a monopolist only produces in the long run, while a perfect competitor only produces in the short run.

Use the following to answer questions 10-11:

**Figure: Effects of Monopolies on Markets**

10. (Figure: Effects of Monopolies on Markets) In the graph, which area represents the inefficiencies caused by a monopoly?
    A) $e$
    B) $f$
    C) $g$
    D) $h$

11. (Figure: Effects of Monopolies on Markets) In the graph, which area represents the deadweight loss caused by a monopoly?
    A) $e$
    B) $f$
    C) $g$
    D) $h$
Use the following to answer questions 12-13:

**Figure: Monopolies Versus Competitive Industries**

12. (Figure: Monopolies Versus Competitive Industries) If the monopoly depicted in the graph were to become a competitive industry:
   A) $e$ would change from producer surplus to consumer surplus
   B) $e$ would change from consumer surplus to producer surplus
   C) $f$ would change from consumer surplus to producer surplus
   D) $h$ would change from producer surplus to consumer surplus

13. (Figure: Monopolies Versus Competitive Industries) In the graph, consumer surplus, under monopoly is _____ and producer surplus is _____.
   A) $e + f; g + h$
   B) $f; e + h + g$
   C) $e + f + i; g + h + j$
   D) $f; e + g + h + i + j$

14. An example of x-inefficiency is:
   A) an executive cutting wages of workers in an economic downtown.
   B) an executive paying a manager a bonus for increasing profits 20%.
   C) money spent on advertising.
   D) an executive, at corporate expense, hiring a limousine to travel one block. whenever it is raining.
15. If the managers of a monopoly firm hold a one-week executive retreat in Hawaii when it would have been cheaper to hold it in Des Moines, Iowa, then this practice would be described as:
A) rent-seeking behavior.
B) x-inefficiency.
C) price discrimination.
D) anti-competitive behavior.

16. If the electric power company hires an expensive lobby firm to persuade the utility commission to increase its utility rate ceiling, this would represent:
A) a conspiracy in restraint of trade.
B) x-inefficiency.
C) rent-seeking behavior.
D) marginal cost pricing.

17. For a firm to price discriminate, it must:
A) sell to customers with identical price elasticities of demand.
B) produce a product or service that has a close substitute provided by other firms.
C) be able to prevent the resale of its product.
D) have different marginal costs for each of the different customers.

18. *Ceteris paribus*, a price-discriminating firm will charge less to the customers who:
A) are the most elastic in their demand for the product.
B) have the lowest incomes.
C) have the least elastic demand for its product.
D) are the most rational in making their decisions.

19. A monopolist has four distinct groups of customers. Group A has an elasticity of demand of 0.2, B has an elasticity of demand of 0.8, C has an elasticity of demand of 1.0, and D has an elasticity of demand of 2.0. The group paying the highest price for the product will be:
A) A.
B) B.
C) C.
D) D.
20. If Biker's Oasis offers lower prices to women on “ladies night,” then it would be engaging in:
   A) first-degree price discrimination.
   B) second-degree price discrimination.
   C) third-degree price discrimination.
   D) perfect price discrimination.

21. Marta takes her 72-year-old mother and her 11-year-old son to the local water park. Marta pays $12 for her ticket, $8 for her mother's senior citizen ticket, and $6 for her son's child ticket. This is an example of:
   A) perfect price discrimination.
   B) second-degree price discrimination.
   C) third-degree price discrimination.
   D) a kinked oligopoly demand curve.

22. When Ford offers a car rental agency lower prices if it buys a fleet of new vehicles, it is practicing:
   A) first-degree price discrimination.
   B) second-degree price discrimination.
   C) third-degree price discrimination.
   D) perfect price discrimination.

23. Suppose a water utility company charges a residential customer $1.50 per 1,000 gallons for the first 30,000 gallons of water used, and $1.00 per 1,000 gallons for any amounts used in excess of 30,000 gallons of water. The water utility is practicing:
   A) second-degree price discrimination.
   B) first-degree price discrimination.
   C) third-degree price discrimination.
   D) perfect price discrimination.

24. At movie theaters, lower prices are charged for matinees than for evening showings of the same film. The customers attending the matinees have:
   A) lower elasticities of demand than customers attending the evening showings.
   B) higher elasticities of demand than customers attending the evening showings.
   C) perfectly inelastic demand curves.
   D) highly inelastic demand curves.
25. Which of the following is MOST likely to be a natural monopoly?
   A) an ambulance service in a small town in Wyoming
   B) Apple, Inc.
   C) an automobile manufacturer with a national market
   D) United Parcel Service

26. If the public utility commission allows the water company to earn a normal profit, then it is enforcing a(n):
   A) marginal cost pricing rule.
   B) market pricing rule.
   C) average cost pricing rule.
   D) customer service rule.

27. The top eight firms in an industry control, respectively, 15%, 10%, 9%, 8%, 7%, 6%, 5%, and 4%. What is the four-firm concentration ratio?
   A) 15
   B) 42
   C) 64
   D) 100

28. Assume that Coca-Cola has a market share of 40% and Pepsi has a market share of 30%. If Pepsi and Coca-Cola attempt to merge, will the Federal Trade Commission challenge the attempt in court?
   A) No. The industry is not concentrated.
   B) The decision is unknown until they closely evaluate the effects.
   C) Yes. The industry is concentrated.
   D) The Federal Trade Commission has no legal authority over mergers.

29. Suppose that an industry has a premerger HHI of 1,400 and two firms in that industry are trying to merge. Which of the following statements is then TRUE?
   A) The merger is likely to be approved.
   B) The merger is likely to be approved if it raises the HHI less than 100 points.
   C) The merger is likely to be challenged.
   D) The merger is likely to be disapproved.
Use the following to answer questions 30-31:

<table>
<thead>
<tr>
<th>Firm</th>
<th>Sales ($ million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>20</td>
</tr>
<tr>
<td>2</td>
<td>18</td>
</tr>
<tr>
<td>3</td>
<td>16</td>
</tr>
<tr>
<td>4</td>
<td>13</td>
</tr>
<tr>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>8</td>
<td>5</td>
</tr>
<tr>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td>10</td>
<td>1</td>
</tr>
</tbody>
</table>

30. (Table) From the information given in the table, the four-firm concentration ratio is:
   A) 67.
   B) 79.
   C) 18.
   D) 62.

31. (Table) From the information given in the table, the Herfindahl-Hirschman Index is:
   A) 1,425.
   B) 1,895.
   C) 1,384.
   D) 1,595.

32. The market shares for the firms in a six-firm industry equal 45, 25, 15, 10, 3, and 2. The HHI for the industry is:
   A) 100.
   B) 2,500.
   C) 2,988.
   D) 203.

33. Monopolistic competition is like perfect competition in that they both:
   A) have numerous competitors.
   B) put labels on their products.
   C) erect barriers to entry.
   D) make zero economic profit in the short run.
34. (Figure: Monopolistic Competition) Under monopolistic competition, the price for this good or service in the graph will be:
   A) e.
   B) f.
   C) g.
   D) d.

35. (Figure: Monopolistic Competition) Under monopolistic competition, economic profit is represented in this graph by rectangle:
   A) feab.
   B) geac.
   C) head.
   D) There is never positive economic profit under monopolistic competition.
36. (Figure: Long-Run Monopolistic Competition) Referring to the graph, this monopolistically competitive firm will earn _____ profit in the long run.
   A) high economic
   B) less than normal
   C) abnormal profits
   D) no economic

37. Suppose a firm produces 20 units of output. At that level, ATC is 70, $P = 50$, MR and MC = 30. The firm is experiencing a loss of:
   A) $400.
   B) $1,000.
   C) $600.
   D) $1,400.

38. If Rosco's Tacos competes with eight other fast-food restaurants in the same neighborhood, and two of those rival firms exit the market, then:
   A) the market demand curve will shift to the left.
   B) the market supply curve will shift to the right.
   C) Rosco's demand curve will shift to the right.
   D) Rosco's supply curve will shift to the right.
39. In the long run, a monopolistically competitive firm charges a higher price than a perfectly competitive firm. The reason for this difference is that monopolistically competitive firms:
   A) act like monopolies and restrict output.
   B) have higher costs associated with advertising and product development.
   C) need to earn economic profits in the long run to justify their expenditures on product development.
   D) have no interest in consumer well-being.

40. In the long run:
   A) firms in both monopolistic competition and competition achieve allocative efficiency but not productive efficiency.
   B) only firms in the competitive market achieve both allocative and productive efficiency.
   C) only firms in monopolistic competition achieve both allocative and productive efficiency.
   D) neither competition nor monopolistic competition achieves allocative efficiency.

41. Which of the following industries is MOST likely to be an oligopoly?
   A) agriculture
   B) steel
   C) beer
   D) ketchup

42. The market for air travel from Dallas to Chicago is:
   A) a monopoly.
   B) an oligopoly.
   C) monopolistically competitive.
   D) competitive.

43. Murphy's Gas Station constantly watches the price of unleaded gas at Johnson's Gas Station. If Johnson's lowers the price of gas, so will Murphy's. This is an example of:
   A) network effects.
   B) rent-seeking behavior.
   C) mutual interdependence.
   D) monopoly.
44. If a market has 20 competing firms and 20% of those firms produce 80% of the sales, then the market structure would be described as:
   A) competitive.
   B) an oligopoly.
   C) monopolistically competitive.
   D) a monopoly.

45. Before deciding on a pricing strategy, Worldwide Widgets consults with its market intelligence team to understand what discounts the Gargantuan Gizmo Company is offering. The model that BEST fits this industry is:
   A) pure competition.
   B) monopolistic competition.
   C) oligopoly.
   D) monopoly.

46. Cartels are inherently unstable because:
   A) any one firm can make additional profits by selling additional output at a price below marginal cost.
   B) of the disincentive to cheat.
   C) firms behave like competitive firms facing a market price.
   D) any one firm can make additional profits by selling additional output at a price above marginal cost.

47. If a cartel member is considering cheating in order to earn profits, it should:
   A) increase the price of the goods it sells at quota.
   B) decrease the price of the goods it sells at quota.
   C) increase the quantity it sells at the quota price.
   D) decrease the quantity it sells at the quota price.

48. Target executives believe that if they raise prices, then customers will go across the street to shop at Walmart. However, if they lower prices, then Walmart will respond likewise, so no customers will switch from Walmart to Target. This scenario implies that:
   A) Target should drop its price in an effort to drive Walmart out of business.
   B) prices charged by both retailers will be relatively stable.
   C) both retailers are locked in destructive competition.
   D) Target should not have a pricing strategy.
49. If an individual's primary objective is to maximize his or her salary, then which of the following actions would NOT be considered a rational decision?
A) accepting a miserable job that pays $60,000 per year over a fun job that pays $40,000 per year
B) accepting a fun job that pays $70,000 per year over a miserable job that pays $60,000 per year
C) accepting a miserable job that pays $95,000 per year over a fun job that pays $90,000 per year
D) accepting a fun job that pays $40,000 per year over a miserable job that pays $60,000 per year

50. The industrial structure of cartels is an example of a(n):
A) cooperative game.
B) noncooperative game.
C) parlor game.
D) asymmetric information game.

Use the following to answer question 51:

| Firm A's Price | $20  | $15
|----------------|------|------
| $20            | $100,000 | $60,000 |
| $15            | $120,000 | $80,000 |

51. (Table) Assume that oligopolists, Firm A and Firm B both charge $20 for the product and face roughly the same costs. Firm A is considering a price decrease to $15. Profits for each firm are given in the payoff matrix (A's profits, B's profits) shown in the table. How will Firm B react?
A) Firm B will keep its price at $20 and earn $100,000.
B) Firm B will keep its price at $20 and earn $60,000.
C) Firm B will lower its price to $15 and earn $60,000.
D) Firm B will lower its price to $15 and earn $80,000.
52. A solution or best-response to a situation that depends on what is most “obvious,” and is used in situations where there is more than one Nash equilibrium, is called a:
   A) point of decision.
   B) focal point.
   C) payoff equilibrium.
   D) bliss point.

53. If everyone drives his or her car to work, taking the bus would be extremely slow, so you would also drive your car. And if everybody rides the bus to work, the roads would be empty so you would again drive your car. In this example, driving your car would be classified as a:
   A) prisoner's dilemma.
   B) dominant strategy.
   C) Nash equilibrium.
   D) focal point.

Use the following to answer question 54:

<table>
<thead>
<tr>
<th></th>
<th>Left</th>
<th>Right</th>
</tr>
</thead>
<tbody>
<tr>
<td>Katy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jesse</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Up</td>
<td>4, 8</td>
<td>3, 7</td>
</tr>
<tr>
<td>Down</td>
<td>6, 5</td>
<td>5, 2</td>
</tr>
</tbody>
</table>

54. (Table) In this game table, the dominant strategies are:
   A) Jesse plays Up and Katy plays Left.
   B) Jesse plays Up and Katy plays Right.
   C) Jesse plays Down and Katy plays Left.
   D) Jesse plays Down and Katy plays Right.

Use the following to answer questions 55-56:

<table>
<thead>
<tr>
<th>Pepsi's Pricing Strategy per 12-Pack</th>
<th>$4</th>
<th>$5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coke's Price per 12-pack</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$4</td>
<td>$2 million</td>
<td>$4 million</td>
</tr>
<tr>
<td>$2 million</td>
<td>$1 million</td>
<td>$1 million</td>
</tr>
<tr>
<td>$5</td>
<td>$1 million</td>
<td>$3 million</td>
</tr>
<tr>
<td>$1 million</td>
<td>$4 million</td>
<td>$3 million</td>
</tr>
</tbody>
</table>
55. (Table) In this payoff matrix, two possible pricing strategies per 12-pack for Coke and Pepsi are shown and the profit payoff to each firm is also shown. Note that the top value in each outcome is the profit for Coke. What is the Nash equilibrium?
   A) Both firms charge $5 per 12-pack.
   B) Pepsi charges $4 and Coke charges $5 per 12-pack.
   C) Both firms charge $4 per 12-pack.
   D) Pepsi charges $5 and Coke charges $4 per 12-pack.

56. (Table) In this payoff matrix, two possible pricing strategies per 12-pack for Coke and Pepsi are shown and the profit payoff for each firm is also shown. Note that the top value in each outcome is the profit for Coke. If the two firms are able to successfully collude:
   A) both will set their prices at $4 per 12-pack.
   B) Pepsi will charge $4 and Coke will charge $5 per 12-pack.
   C) Pepsi will charge $5 and Coke will charge $4 per 12-pack.
   D) both will set their prices at $5 per 12-pack.

57. Both Lowe's and Home Depot must choose how much to advertise or whether to advertise at all. The choice of one of these firms to advertise or not is very dependent on the advertising choice of the other. These choices are an example of:
   A) a competitive market structure.
   B) a cartel.
   C) the Prisoner's Dilemma.
   D) a cooperative game.

Use the following to answer questions 58-59:

<table>
<thead>
<tr>
<th></th>
<th>JetBlue</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High</td>
</tr>
<tr>
<td>Delta</td>
<td>700, 100</td>
</tr>
<tr>
<td>Low</td>
<td>550, 70</td>
</tr>
</tbody>
</table>

58. (Table) In this game table representing airfare pricing between Delta and JetBlue, what is the Nash equilibrium?
   A) Delta = high; JetBlue = high
   B) Delta = high; JetBlue = low
   C) Delta = low; JetBlue = high
   D) Delta = low; JetBlue = low
59. (Table) In this game table representing airfare pricing between Delta and JetBlue, does the Nash equilibrium represent a Prisoner's Dilemma, and why?
   A) Yes, because there is an outcome better for both firms
   B) Yes, because one firm is unable to achieve the highest payoff
   C) No, because both firms are earning the highest payoff possible
   D) No, because one firm is earning the highest payoff possible

60. The notion that individuals and firms are compelled to retaliate or punish others for engaging in noncooperative actions, but leaving the door open for future reconciliation, is BEST referred to as a(n):
   A) tit-for-tat strategy.
   B) grim strategy.
   C) trembling hand strategy.
   D) irrational strategy.

61. Which of the following is a benefit that results from a Prisoner's Dilemma outcome?
   A) charging high prices leads to more profits
   B) charging high prices leads to more customers
   C) charging low prices leads to fewer customers
   D) charging low prices leads to more customers

62. An example of a cooperative game is:
   A) the Prisoner's Dilemma.
   B) a cartel.
   C) the competitive model.
   D) the monopolistically competitive model.

63. Nintendo lowers the price of its product by $10, and Sony responds by lowering the price of its own product by $10 forever. This is an example of what type of game strategy?
   A) grim trigger
   B) trembling hand trigger
   C) tit-for-tat
   D) predatory pricing
64. Nintendo lowers the price of its product by $10, and Sony responds by lowering the price of its own product by $10. The next month Nintendo raises the price of its product by $15, and Sony responds by raising the price of its own product by $15. This is an example of what type of game strategy?
A) grim trigger
B) trembling hand trigger
C) tit-for-tat
D) predatory pricing

65. In a competitive labor market, if a new manufacturing plant seeks to build its labor force, it is assumed that:
A) each applicant has a unique skill set.
B) the jobs available at the plant represent the best possible opportunity for each applicant.
C) applicants have the ability to negotiate their wage based on their qualifications.
D) the quantity of workers available is greater than the quantity of workers that are sought.

66. Nonwork activities are known in economics as:
A) inefficient.
B) leisure.
C) nonwage income.
D) personal satisfaction.

67. The “substitution effect” for labor supply states that people work:
A) less as wages rise because their ability to purchase goods increases.
B) more as wages rise because their ability to purchase goods increases.
C) less as wages rise because the opportunity cost of leisure increases.
D) more as wages rise because the opportunity cost of leisure increases.

68. Theoretically, how would an individual working at minimum wage react to an increase in the minimum wage, ceteris paribus?
A) increase the hours of work the individual is willing to work
B) decrease the hours of work the individual is willing to work
C) quit working
D) The increase would not change the behavior of an individual.
69. (Figure: Labor Supply Curve) In the graph, the substitution effect is shown by segment:
   A) ab.
   B) ac.
   C) bc.
   D) abc.

70. You are willing to work 30 hours per week at your standard wages. You would be willing to work an additional 10 hours each week if you could get an additional $5 per hour. This information reflects your:
   A) marginal propensity to consume.
   B) demand for labor.
   C) demand curve.
   D) supply of labor.
Use the following to answer question 71:

<table>
<thead>
<tr>
<th>Labor Supply Schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wage rate ($/hr.)</td>
</tr>
<tr>
<td>10</td>
</tr>
<tr>
<td>15</td>
</tr>
<tr>
<td>25</td>
</tr>
<tr>
<td>35</td>
</tr>
<tr>
<td>45</td>
</tr>
<tr>
<td>50</td>
</tr>
</tbody>
</table>

71. (Table) In the table, what must be TRUE about the labor supply curve for wage rates up to $45 per hour?
   A) As the wage rate rises, more hours of leisure are consumed.
   B) The income effect dominates the substitution effect.
   C) The substitution effect dominates the income effect.
   D) As the wage rate rises, fewer hours of work take place.

Use the following to answer question 72:

<table>
<thead>
<tr>
<th>Labor Supply Schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wage Rate ($/hr.)</td>
</tr>
<tr>
<td>20</td>
</tr>
<tr>
<td>30</td>
</tr>
<tr>
<td>40</td>
</tr>
<tr>
<td>50</td>
</tr>
<tr>
<td>60</td>
</tr>
</tbody>
</table>

72. (Table) In the table, what must be TRUE about the labor supply curve as the wage rate rises from $50 to $60 per hour?
   A) As wages increase, fewer hours of leisure are consumed.
   B) The income effect dominates the substitution effect.
   C) The substitution effect dominates the income effect.
   D) As the wage rate rises, more hours of work are offered.
73. Derived demand suggests that
A) labor demand is derived from demand for the product it produces.
B) labor demand will shift about in a random fashion.
C) labor demand is determined by the supply of labor.
D) the labor demand curve will be upward sloping.

Use the following to answer question 74:

<table>
<thead>
<tr>
<th>Labor</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>2</td>
<td>19</td>
</tr>
<tr>
<td>3</td>
<td>34</td>
</tr>
<tr>
<td>4</td>
<td>47</td>
</tr>
<tr>
<td>5</td>
<td>57</td>
</tr>
</tbody>
</table>

74. (Table) The amount of labor and corresponding output are provided in the table. The price per unit of output is $11.50. The wage paid per day is $115. To maximize economic profit, how many people should the firm hire?
A) 2
B) 3
C) 4
D) 5

Use the following to answer questions 75-77:

<table>
<thead>
<tr>
<th>Units of Labor</th>
<th>Quantity of Output</th>
<th>Product Price</th>
<th>Marginal Revenue Product</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>20</td>
<td>$10</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>28</td>
<td>10</td>
<td>A</td>
</tr>
<tr>
<td>3</td>
<td>35</td>
<td>10</td>
<td>B</td>
</tr>
<tr>
<td>4</td>
<td>41</td>
<td>10</td>
<td>C</td>
</tr>
<tr>
<td>5</td>
<td>D</td>
<td>10</td>
<td>$30</td>
</tr>
<tr>
<td>6</td>
<td>35</td>
<td>10</td>
<td></td>
</tr>
</tbody>
</table>
75. (Table) In the table, what is the value of A?
   A) $280
   B) $28
   C) $80
   D) $8

76. (Table) In the table, what is the value of C?
   A) $410
   B) $41
   C) $60
   D) $6

77. (Table) In the table, if the wage rate is $65, how many workers should this firm hire?
   A) 1
   B) 2
   C) 3
   D) 4

Use the following to answer question 78:

<table>
<thead>
<tr>
<th>L</th>
<th>TP</th>
<th>MPP_L</th>
<th>P</th>
<th>MRP_L</th>
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<tr>
<td>10</td>
<td>80</td>
<td>4</td>
<td>$10</td>
<td>$40</td>
</tr>
</tbody>
</table>

78. (Table) In the table, the marginal physical product of the third worker is:
   A) 11.
   B) 10.
   C) 9.
   D) 8.
79. (Figure: Market Wages and Labor Demand) If the market wage is $100, the firm will employ ______ workers.
   A) 4
   B) 6
   C) 7
   D) 8

80. If the price of diesel fuel increases, the MRP curve for truck drivers will:
   A) shift to the right.
   B) shift to the left.
   C) be perfectly elastic.
   D) bend backward.

81. Which theory of economic discrimination was proposed by the influential economist Gary Becker?
   A) the theory of discriminatory tastes
   B) the segmented markets approach
   C) the job crowding hypothesis
   D) the dual labor market hypothesis
82. Which of the following would be an example of a segmented markets approach to economic discrimination?
   A)  hiring a friend
   B)  firing a person for insubordination
   C)  requiring that a job candidate be a union member
   D)  refusing to hire a qualified job candidate because she has a foreign accent

83. Which theory of economic discrimination states that union members earn higher wages than nonunion members, leading to a wage differential?
   A)  the insider-outsider theory
   B)  Becker's theory of discrimination
   C)  the job crowding hypothesis
   D)  the dual labor market hypothesis

84. Jennifer discovered that she receives a substantially lower salary than Ted who has the same level of education and ability as she does. This is considered illegal under the:
   A)  Civil Rights Act of 1964.
   C)  Executive Order 11246.

85. Which antidiscrimination act was signed after all the others, in chronological order?
   A)  the Civil Rights Act
   B)  the Lily Ledbetter Act
   C)  the Age Discrimination in Employment Act
   D)  the Fair Labor Standards Act

86. Other things equal, a decrease in demand for male-dominated jobs and an increase in demand for female-dominated jobs:
   A)  widens the wage differential between men and women.
   B)  increases male employment.
   C)  reduces female employment.
   D)  shrinks the wage differential between men and women.

87. Which antidiscrimination act was before all the others, in chronological order?
   A)  the Civil Rights Act
   B)  the Lily Ledbetter Act
   C)  the Age Discrimination in Employment Act
   D)  the Equal Pay Act
88. Which theory of economic discrimination states that women tend to have to work in certain low-paying jobs, leading to a wage differential versus men?
   A) the insider-outsider theory
   B) Becker's theory of discrimination
   C) the job crowding hypothesis
   D) the dual labor market hypothesis

89. Which union represents truck drivers?
   A) AFT
   B) PATCO
   C) Teamsters
   D) UAW

90. Which is NOT one of the potential benefits of labor unions?
   A) Unions appear to reduce wage inequality.
   B) Unionism raises social efficiency.
   C) Unions may reduce a company's profits.
   D) Unions may have contributed to safer working conditions.

91. Which piece of legislation ended “closed shops” in the American workplace?
   A) the Norris-LaGuardia Act
   B) the Taft-Hartley Act
   C) the Wagner Act
   D) Executive Order 10988

92. Which piece of legislation is also known as the National Labor Relations Act?
   A) the Norris-LaGuardia Act
   B) the Taft-Hartley Act
   C) the Wagner Act
   D) Executive Order 10988

93. Trevan is a new hire for a factory in Indiana. He was told that he has 30 days to join the union. His workplace is a(n):
   A) closed shop.
   B) union shop.
   C) open shop.
   D) agency shop.
94. Abdul signed a labor contract that has an agency shop clause. According to the clause:
   A) Abdul must join the union prior to first day of employment.
   B) Abdul has 30 days to join the union.
   C) Abdul does not have to join the union; however, he must pay union dues.
   D) Abdul is not required to join the union or pay union dues.

95. According to the segmented labor market view, unions restrict the labor supply to increase wages. As labor migrates to nonunion markets, nonunion wage rates fall. Which of the following actions would reduce the incentive for firms to substitute nonunion workers for union members?
   A) increasing the income tax on all workers
   B) passing discriminatory laws that bar immigrants from certain jobs
   C) increasing the minimum wage in the nonunion markets
   D) providing more education and training for union members

96. Which three states are known for having governors who have wished to restrict the power of public employee unions?
   A) California, New Jersey, and Wisconsin
   B) California, Ohio, and New Jersey
   C) New York, Ohio, and New Jersey
   D) New Jersey, Ohio, and Wisconsin

97. If a positive externality exists in a market, the marginal:
   A) private cost exceeds the marginal social cost.
   B) social cost exceeds the marginal private cost.
   C) private benefit exceeds the marginal social benefit.
   D) social benefit exceeds the marginal private benefit.

98. The elimination of a smoking ban in public restaurants creates a:
   A) positive externality.
   B) negative externality.
   C) tragedy of the commons.
   D) common property resource market failure.
99. Which of the following might be considered a positive externality?
   A) better fishing resulting from increased lake temperatures generated by a nearby power plant
   B) individuals who did not receive a flu shot yet did not get the flu because those around them did receive the shot
   C) the pollination of an orange grove due to bees kept by a nearby beekeeper
   D) All of these may be viewed as positive externalities.

Use the following to answer questions 100-101:

**Figure: Determining Externalities**

100. (Figure: Determining Externalities) Total consumer surplus plus producer surplus at point \( i \) is:
   A) $75,000.
   B) $80,000.
   C) $100,000.
   D) $125,000.

101. (Figure: Determining Externalities) The socially optimal level of production is at point:
   A) \( b \).
   B) \( e \).
   C) \( f \).
   D) \( g \).
Use the following to answer questions 102-103:

**Figure: Nail Polish Externalities**

102. (Figure: Nail Polish Externalities) In the figure, $S_p$ (MPC) represents the private supply curve of a particular type of nail polish, whose manufacture is associated with the release of toxic chemicals into the atmosphere. $S_s$ (MSC) includes the costs of that toxicity borne by others. What is the socially optimal quantity of this nail polish?
   A) $Q_1$
   B) $Q_2$
   C) 0
   D) It is unknown.

103. (Figure: Nail Polish Externalities) In the figure, $S_p$ (MPC) represents the private supply curve of a particular type of nail polish, whose manufacture is associated with the release of toxic chemicals into the atmosphere. $S_s$ (MSC) includes the costs of that toxicity borne by others. What is the socially optimal price of this nail polish?
   A) $P_1$
   B) $P_2$
   C) $d$
   D) 0
104. Inoculations for children against infectious diseases:
   A) are an example of private good.
   B) generate an external cost.
   C) create an external benefit.
   D) are an example of a public good.

105. The Coase theorem states that, under certain conditions, the efficient allocation of resources among parties can be attained through:
   A) regulation.
   B) government intervention.
   C) bargaining.
   D) taxation.

106. The Coase theorem claims that, in the case of tobacco:
   A) if victims are given the right to be free of a smoke-filled environment, then tobacco manufacturers will sell tobacco through underground markets.
   B) efficiency will occur only if smokers are given the right to smoke wherever they wish.
   C) efficiency will occur only if victims are given the right to be free of a smoke-filled environment.
   D) it doesn't matter who is given the property rights to the air, as long as the parties involved are allowed to bargain.

Use the following to answer question 107:

**Figure: Determining Consumer and Producer Surplus**

![Diagram showing consumer and producer surplus](image)
107. (Figure: Determining Consumer and Producer Surplus) Point ____ represents consumer surplus.
A)  
B)  
C)  
D)  

108. All of the following are considered private goods, EXCEPT:
A)  street lights.  
B)  an ice cream cone.  
C)  a car.  
D)  a house.  

109. An over-the-air radio station that plays music for free is a(n) ____ good, while a streaming radio service that charges a subscription fee is a(n) ____ good.
A)  rival; nonrival  
B)  nonrival; rival  
C)  excludable; nonexcludable  
D)  nonexcludable; excludable  

110. Mosquito spraying in a local community is an example of a public good because it is:
A)  rival and exhibits nonexcludability.  
B)  nonrival and exhibits excludability.  
C)  nonrival and exhibits nonexcludability.  
D)  rival and exhibits excludability.  

111. If air pollution comes from multiple sources and it causes many people to suffer, then an efficient agreement among the parties is difficult to achieve because:
A)  production costs would be high.  
B)  pollution costs are high.  
C)  transaction costs are high.  
D)  social costs are high.  

112. Mike constructed a beautiful backyard landscape. He also built a tall wooden wall around his yard. With the wall in place, the good that the landscape brings to the neighborhood becomes a:
A)  private good because Mike can exclude people from enjoying the landscape.  
B)  public good because there is still nonrivalry in seeing the landscape.  
C)  private good because Mike pays for the landscape out of his own pocket.  
D)  public good because the landscape is part of nature.
113. ______ would be MOST likely to have a free rider problem.
   A) Satellite TV
   B) Public TV
   C) A professional sporting event
   D) A rock concert

114. Market demand for public goods is sometimes better referred to as the:
   A) marginal social cost curve.
   B) total social benefit curve.
   C) willingness to pay curve.
   D) individual demand curve.

Use the following to answer question 115:

<table>
<thead>
<tr>
<th>Q</th>
<th>P1</th>
<th>P2</th>
<th>P3</th>
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<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

115. (Table) In the table, P1 through P4 are the prices that four consumers are willing to pay for different quantities of a public good. If the demand curve were created for this public good, the price associated with the third unit would be:
   A) $5.
   B) $9.
   C) $12.
   D) $14.

116. Which of the following is the BEST example of a common property resource?
   A) lobsters off the coast of Maine
   B) a hospital
   C) an international airport
   D) an army base
117. An oil field lies beneath the border of Oklahoma and Texas. Both states drill wells every 100 yards, and in two weeks the field loses all its pressure and ability to produce, leaving 80% of the oil in the ground. This consequence is an example of market failure due to:
A) common property resource.
B) public goods.
C) nonrivalry.
D) rivalry between the two revenue-hungry states.

118. Which of the following events would be an example of a common property resource market failure?
A) use of portable buildings in elementary schools
B) highway congestion
C) increased instances of leukemia among neighbors of nuclear plants
D) gasoline that costs $5 a gallon

119. If a plant that employs 1,500 workers is assessed a fee to pay for its effluent costs, the firm will be likely to:
A) reduce its labor force because its cost of production has increased.
B) add to its labor force in order to perform cleanup tasks
C) reduce its product price as compensation for its environmental impact.
D) reduce its product price to increase its sales volume.

120. Which of the following is both finite and nonrenewable?
A) helium
B) gold
C) copper
D) Helium, gold, and copper are all finite and nonrenewable.

121. Which discount rate would result in society devoting the most resources to long-run environmental management?
A) 1%
B) 2%
C) 3%
D) 4%
Use the following to answer question 122:

<table>
<thead>
<tr>
<th>Quantity of Pollution Abatement</th>
<th>Marginal Cost</th>
<th>Marginal Benefits</th>
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<td>550,000</td>
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</tr>
<tr>
<td>2,500</td>
<td>450,000</td>
<td>150,000</td>
</tr>
</tbody>
</table>

122. (Table) Referring to the table, the optimal quantity for pollution abatement is:
   A) 1,000.
   B) 1,500.
   C) 2,000.
   D) 3,000.

123. The “price” of reducing emissions is called the:
   A) abatement cost.
   B) Pigouvian tax.
   C) aesthetic loss.
   D) emissions tax.

124. If the marginal damage caused by a certain type of pollution is $100 billion and the marginal cost of abatement is $180 billion, then:
   A) society would be better off with zero pollution.
   B) society would be better off if emissions were increased.
   C) command and control policies should always be used.
   D) society would be better off if emissions were reduced.

125. Other things equal, an increase in the marginal benefits from abatement should:
   A) lead to an increase in pollution.
   B) cause a reduction in pollution.
   C) reduce the costs of pollution.
   D) lead to lower pollution taxes on firms.
126. If the Environmental Protection Agency sets air emission standards for all manufacturing companies to follow, what kind of environmental policy is being used?
   A) marginal cost-of-abatement policy
   B) command and control policy
   C) emission taxes policy
   D) market-based policy

127. If a community does not have the resources for pollution control, they might be offered:
   A) the abatement cost.
   B) a Pigouvian tax.
   C) a federal subsidy.
   D) an emissions tax.

128. Which of the following is NOT a reason why standards for reducing pollution are popular?
   A) They are simple.
   B) They are cheaper than market-based policies.
   C) They lead each firm to have the same costs for abatement.
   D) They prevent competing firms from polluting.

129. People who use Sony’s PlayStation 4 gaming system are members of a:
   A) physical network.
   B) mental network.
   C) social network.
   D) virtual network.

130. Facebook is a:
   A) physical network.
   B) mental network.
   C) social network.
   D) virtual network.

131. Networks connected by groups of people using the same type or brand of good are known as:
   A) physical networks.
   B) neural networks.
   C) virtual networks.
   D) social networks.
132. Network goods differ from other types of markets studied in economics because the ____ is different.
   A) demand curve  
   B) horizontal axis  
   C) supply curve  
   D) vertical axis

133. If Sandy joins Match.com, then the value of membership in Match.com _____ for Joanie, who is already a member, and _____ for Robert, who is considering joining.
   A) rises; rises  
   B) rises; falls  
   C) falls; rises  
   D) falls; falls

Use the following to answer questions 134-135:

**Figure: Externalities and Network Effects**

134. (Figure: Externalities and Network Effects) Referring to the graph, we see that if a consumer joins the social network depicted:
   A) $D_p$ shifts left and $D_S$ shifts left.  
   B) $D_p$ shifts left and $D_S$ shifts right.  
   C) $D_p$ shifts right and $D_S$ shifts left.  
   D) $D_p$ shifts right and $D_S$ shifts right.
135. (Figure: Externalities and Network Effects) Referring to the graph, we see that if a consumer leaves the social network depicted:
A) $D_p$ shifts left and the external benefit remains unchanged.
B) $D_p$ remains unchanged and the external benefit decreases.
C) $D_p$ shifts left and the external benefit decreases.
D) $D_p$ shifts left and the external benefit increases.

136. A network demand curve slopes ____ at lower quantities and _____ at higher quantities.
A) downward; downward
B) downward; upward
C) upward; downward
D) upward; upward

137. Why is the short-run supply curve for a network good vertical?
A) It is limited to the capacity of the firm's fixed investment.
B) It is limited to the capacity of the firm's variable costs.
C) It is limited to the capacity of the firm's consumer demand.
D) It is limited to the capacity of the firm's pricing structure.

Use the following to answer questions 138-139:

**Figure: Goods with Fixed Capacities**
138. (Figure: Goods with Fixed Capacities) The graph depicts a small network with fixed capacity. If capacity increases from $S_0$ to $S_1$:
   A) $D$ remains unchanged, and $P$ increases.
   B) $D$ rotates upward, and $P$ increases.
   C) $D$ rotates downward, and $P$ decreases.
   D) $D$ shifts parallel and to the right, and $P$ increases.

139. (Figure: Goods with Fixed Capacities) Referring to the graph, we see that an increase in supply leads to a(n) ____ in price for a small network with fixed capacity and a(n)____ in price for a non-network good.
   A) increase; decrease
   B) increase; increase
   C) decrease; increase
   D) decrease; decrease

Use the following to answer question 140:

**Figure: Network Market Curves**

A

B

C

D
140. (Figure: Network Market Curves) In the graph, which curve represents the demand curve for a network good?
A) A
B) B
C) C
D) D

Use the following to answer question 141:

Figure: Network Market Demand Curve

141. (Figure: Network Market Demand Curve) The graph depicts a network market demand curve. Along the Quantity axis (x-axis), customers who purchase the good after it matures, fall on the _____ portion and people who buy it before it matures fall on the _____.
A) left; center
B) left; right
C) center; right
D) right; left

142. What economic process causes a portion of a network good's demand curve to slope downward?
A) a saturated market
B) lower production costs
C) the income effect
D) the substitution effect
143. (Figure: Market Equilibrium for a Network Good) In the graph, the tipping point is at point:
   A) a.
   B) b.
   C) c.
   D) d.

144. (Figure: Market Equilibrium for a Network Good) In the graph, the price effect equals the network effect at point:
   A) a.
   B) b.
   C) c.
   D) d.

145. (Figure: Market Equilibrium for a Network Good) In the graph, a virtuous cycle is MOST likely to occur once the network reaches point:
   A) a.
   B) b.
   C) c.
   D) d.
146. (Figure: Market for a Network Good 2) The graph depicts the market for a network good. What point must demand reach for a virtuous cycle to take hold?
   A) $E$
   B) $F$
   C) $G$
   D) $H$

147. (Figure: Market for a Network Good 2) The graph depicts the market for a network good. If demand fails to reach point ___, the company may ____ market share.
   A) $F$; lose
   B) $F$; gain
   C) $G$; lose
   D) $H$; gain

148. Which of the following has lost market share because of a vicious cycle?
   A) calling cards
   B) Skype
   C) streaming video
   D) “Cloud” software
149. Zenon Corporation operates in a network industry and charges existing customers $9.99 per month for its services, but offers new customers who sign a three-year contract six months of service for $1 per month. This new customer offer is known as:
   A) a teaser strategy.
   B) product differentiation.
   C) a lock-out strategy.
   D) market segmentation.

150. Way-to-Go Wireless offers different wireless plans for people with different needs, such as an unlimited monthly plan and a fixed-minute monthly plan. This is an example of:
   A) versioning.
   B) a teaser strategy.
   C) a lock-in strategy.
   D) bundling.

151. Occasionally, gyms waive their membership fees in the hope of attracting customers. This is BEST described as an example of:
   A) a lock-in strategy.
   B) a teaser strategy.
   C) intertemporal pricing.
   D) versioning.

152. Home Internet service is often sold at a lower price for the first 12 months. This is BEST described as an example of:
   A) a lock-in strategy.
   B) a teaser strategy.
   C) intertemporal pricing.
   D) versioning.

153. Some butcher shops offer “meat deals,” which are combinations of various types of meat for a certain price. This is BEST described as an example of:
   A) bundling.
   B) intertemporal pricing.
   C) peak-load pricing.
   D) versioning.
154. Microsoft Word is often available as a “student edition,” at a lower price with limited functionality. This is BEST described as an example of:
   A) bundling.
   B) intertemporal pricing.
   C) peak-load pricing.
   D) versioning.

155. In what year did the government force AT&T to break up, launching serious competition among telephone providers?
   A) 1973
   B) 1984
   C) 1997
   D) 2001

156. An “industry standard” is:
   A) the highest-quality product in the market.
   B) the goal toward which all firms strive.
   C) a common format used by multiple firms.
   D) a common system of measurement.

157. Inputs that are needed to produce a product or to allow a person to consume a product are known as:
   A) an industry standard.
   B) essential facilities.
   C) interconnection.
   D) network compatibility.

158. Until the 1980s, which company controlled more than three-fourths of American phone lines?
   A) AT&T
   B) MCI
   C) Sprint
   D) Verizon

159. A firm “owns” a network when it becomes:
   A) interconnected.
   B) the industry standard.
   C) compatible.
   D) cost-effective.
160. In network industries where monopolies can be created if network effects are strong, interconnection _____ competition and _____ deadweight loss.
A) decreases; decreases
B) decreases; increases
C) increases; decreases
D) increases; increases
Answer Key

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