1. The profit-maximizing quantity and price are:
   a. 50 and $75.
   b. 70 and $60.
   c. 50 and $30.
   d. 90 and $50.

2. At the profit-maximizing level of output, total cost (TC) is:
   a. $1,500.
   b. $3,000.
   c. $3,750.
   d. $4,500.

3. At the profit-maximizing level of output, this firm:
   a. incurs an economic loss of $750.
   b. earns an economic profit of $750.
   c. incurs an economic loss of $1,500.
   d. earns an economic profit of $1,500.
4. Which of the following is **not** true for a profit-maximizing monopolist?
   a. Price is greater than marginal revenue
   b. Marginal revenue equals marginal cost
   c. Profits equal total revenue minus total cost
   d. Marginal revenue is greater than price

5. Monopolists:
   a. always earn zero economic profits in the long run.
   b. can maintain short-run economic profits in the long run if barriers to entry exist.
   c. cannot exit the industry in the long run even if short-run economic losses persist.
   d. produce the output where price equals marginal cost.

6. Which of the following is a barrier to entry?
   a. Diseconomies of scale
   b. Government franchises and licenses
   c. Sole ownership of a key resource
   d. All of the above
   e. (b) and (c) only

7. Which of the following is a characteristic of a monopoly market?
   a. The product has many close substitutes.
   b. There are no barriers to entry.
   c. There are many sellers of the product.
   d. The demand curve is downward-sloping.

8. The defining characteristic of a natural monopoly is:
   a. economies of scale over the relevant range of output.
   b. diseconomies of scale over the relevant range of output.
   c. marginal cost is U-shaped over the relevant range of output.
   d. marginal cost is constant over the relevant range of output.

9. The demand curve for a monopoly firm is:
   a. more elastic than the industry, or market, demand curve for its product.
   b. the same as the industry, or market, demand curve for its product.
   c. less elastic than the industry, or market, demand curve for its product.
   d. perfectly inelastic at the output where MR=MC.
10. If MC is greater than MR, then a profit-maximizing monopolist should:
   a. increase output to increase profit.
   b. decrease output to increase profit.
   c. do nothing since it is already maximizing profit.
   d. decrease output to decrease profit.

Refer to the graph below to answer questions 11 and 12.

11. This profit-maximizing firm will produce ____ units of output and charge a price of ____.
   a. Q₁; P₁.
   b. Q₂; P₂.
   c. Q₃; P₃.
   d. Q₄; P₄.

12. The deadweight loss of this industry being monopolistic rather than perfectly competitive is equal to the area:
   a. Q₁BDQ₃.
   b. ADE.
   c. P₁ACP₂.
   d. Q₁ADQ₄.

13. Government attempts to reduce the inefficiency associated with monopoly in all of the following ways except:
   a. enforcing antitrust laws that increase competition.
   b. regulating the price a monopoly can charge for output.
   c. operating the monopoly itself.
   d. limiting the amount of output the monopoly may sell in order to limit profit.
14. A monopoly produces:
   a. more than the efficient level of output because marginal benefit exceeds marginal cost.
   b. less than the efficient level of output because marginal benefit exceeds marginal cost.
   c. more than the efficient level of output because marginal benefit is less than marginal cost.
   d. less than the efficient level of output because marginal benefit is less than marginal cost.

15. Price discrimination is the practice of:
   a. charging lower prices in the short run than the long run.
   b. charging lower prices in the long run than the short run.
   c. selling the same good at different prices to different customers.
   d. selling more output in one market than in another market.

Use the information in the table below to answer the next two questions.

<table>
<thead>
<tr>
<th>Price per unit</th>
<th>Quantity Demanded</th>
</tr>
</thead>
<tbody>
<tr>
<td>$12</td>
<td>0</td>
</tr>
<tr>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>5</td>
</tr>
</tbody>
</table>

16. For a monopolist that is unable to price discriminate, the marginal revenue of the 3rd unit is ___ and the marginal revenue for the 4th unit is ___.
   a. $18; $16
   b. $6; $2
   c. $2; $0
   d. $2; -$2

17. A monopolist that is able to perfectly price discriminate would earn total revenue of ___ if it sold 4 units of output and total revenue of ___ if it sold 5 units of output.
   a. $16; $10
   b. $16; $30
   c. $28; $30
   d. $28; $10
18. An industry dominated by a few large firms whose pricing and output decisions are dependent on one another is:
   a. illegal in the United States.
   b. oligopolistic.
   c. monopolistic.
   d. more efficient than a perfectly competitive industry.

19. The game theory model assumes that:
   a. firms ignore rival firms' decisions when they make their own decisions.
   b. firms anticipate rival firms' decisions when they make their own decisions.
   c. markets are contestable because there are no barriers to entry.
   d. a firm will always follow the pricing strategy of the dominant firm in the industry.

20. When an oligopoly market is in a Nash equilibrium:
   a. market price will always be different for each firm.
   b. individual firms will not behave as profit maximizers.
   c. each firm chooses its best strategy given the strategies that the other firms have chosen.
   d. average total cost equals marginal revenue.

Use the information below to answer the next question.

Suppose that two laundry detergent producers, Proctor & Gamble (P&G) and Lever Brothers, are attempting to increase their profits. Each is considering advertising, but is concerned about what the other will do. The results of their decisions are shown below.

<table>
<thead>
<tr>
<th></th>
<th>Advertise</th>
<th>Don't Advertise</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Advertise</strong></td>
<td><strong>P &amp; G profits = $3b</strong></td>
<td><strong>P &amp; G profits = $2b</strong></td>
</tr>
<tr>
<td><strong>Lever</strong></td>
<td><strong>Lever profits = $3b</strong></td>
<td><strong>Lever profits = $5b</strong></td>
</tr>
<tr>
<td><strong>Don't Advertise</strong></td>
<td><strong>P &amp; G profits = $5b</strong></td>
<td><strong>P &amp; G profits = $4b</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Lever profits = $2b</strong></td>
<td><strong>Lever profits = $4b</strong></td>
</tr>
</tbody>
</table>

21. When this game reaches a Nash equilibrium, P & G will earn a profit of _____ and Lever will earn a profit of _____.
   a. $4 billion; $4 billion.
   b. $3 billion; $3 billion.
   c. $5 billion; $2 billion.
   d. $2 billion; $5 billion.
22. Mutual interdependence means that each oligopolistic firm:
   a. faces a perfectly elastic demand for its product.
   b. must consider the reactions of its rivals when it
determines its price policy.
   c. produces a product identical to those of its rivals.
   d. produces a product similar but not identical to the
   products of its rivals.

23. Game theory is especially relevant to understanding:
   a. perfectly competitive markets.
   b. monopoly markets.
   c. oligopoly markets.
   d. none of the above is correct.

24. A cartel is an organization of firms:
   a. that attempts to decrease total (or industry) demand
   for their product.
   b. that reduces output and raises price in an effort to
   increase joint profits.
   c. dominated by one firm, which is usually referred to as
   the price leader.
   d. that deliberately attempts to disrupt the market for
   political reasons.

25. Cartels are often short-lived because:
   a. laws often prohibit explicit collusive agreements among
   competitors.
   b. self-interest often conflicts with cooperation.
   c. it is difficult to enforce agreements reached by cartel
   members.
   d. all of the above are correct.

26. One difference between oligopoly and monopolistic competition
    is that:
   a. under oligopoly, firms choose their best strategy
   without consideration to the strategies chosen by
   others.
   b. fewer firms compete in oligopolies than in monopolistic
   competition.
   c. in monopolistic competition, the products are
   identical.
   d. monopolistic competition has many barriers to entry.

27. A market characterized by many firms producing
differentiated products and entry and exit are relatively
easy is:
   a. oligopolistic.
   b. perfectly competitive.
   c. monopolistic.
   d. monopolistically competitive.
28. An important similarity between a monopolistically competitive firm and a monopolist is that both:
   a. realize an economic profit in the long run.
   b. fail to produce where P = MC, resulting in deadweight loss.
   c. face demand curves which are perfectly inelastic.
   d. face significant barriers to entry.

29. Suppose at the profit-maximizing/loss-minimizing level of output, P = $10, ATC = $13, and AVC = $11. A firm in this position would:
   a. earn a short-run economic profit, so it should continue to produce where MR = MC.
   b. in the short run minimize its losses by shutting down operations.
   c. in the short run minimize its losses by continuing to produce where MR = MC.
   d. continue to produce, but cut back production to a point where MR < MC to reduce production costs.

30. Compared to a monopolist, a monopolistically competitive firm produces a good with ______ substitutes, so it has a _____ elastic demand curve.
   a. fewer; more
   b. fewer; less
   c. more; more
   d. more; less

31. If a monopolistically competitive firm earns a positive economic profit in the short run, it will in the long run:
   a. earn positive economic profits because of barriers to entry.
   b. earn a normal profit (zero economic profit) due to the absence of barriers to entry.
   c. earn an economic loss because there are no barriers to entry.
   d. exit the industry.

32. In the long run, a monopolistically competitive firm will produce where:
   a. MC = MR = P < ATC.
   b. MC = MR < ATC = P.
   c. MC = MR = P = ATC.
   d. MC = MR = ATC < P.
33. In a graph illustrating a perfectly competitive labor market, the supply curve of labor for the individual firm is ________, and the market supply curve of labor is ________.
   a. perfectly elastic; upward-sloping
   b. perfectly inelastic; upward-sloping
   c. upward-sloping; upward-sloping
   d. upward-sloping; perfectly elastic

34. The demand for labor:
   a. is derived from the demand for the output the labor helps produce.
   b. cannot be analyzed using conventional supply and demand graphs.
   c. depends on the cost of labor.
   d. is perfectly elastic for the market as a whole, but downward-sloping for an individual employer.

35. A decrease in the market supply of labor will ________ the equilibrium wage and cause a ________ a perfectly competitive firm's value of the marginal product curve.
   a. raise; shift in
   b. raise; movement along
   c. lower; shift in
   d. lower; movement along

36. If the price of televisions decreases, the value of the marginal product of workers making televisions will:
   a. decrease.
   b. increase.
   c. not change.
   d. rise then fall.

37. A competitive, profit-maximizing firm will choose to hire workers up to the point in which the value of the marginal product:
   a. begins to decrease.
   b. is equal to the wage.
   c. is equal to zero.
   d. is equal to the price of the good being produced.
Refer to the table below of a firm in a perfectly competitive labor market to answer questions 38 - 40.

<p>| (L) |</p>
<table>
<thead>
<tr>
<th># of workers</th>
<th>(TP=Q) Output (per Hour)</th>
<th>(MP) Marginal Product</th>
<th>(P) Price of Output</th>
<th>(VMP) Value of Marginal Product (per hour)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>----</td>
<td>$3</td>
<td>----</td>
</tr>
<tr>
<td>1</td>
<td>9</td>
<td></td>
<td>$3</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>24</td>
<td>15</td>
<td>$3</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>30</td>
<td></td>
<td>$3</td>
<td>$18</td>
</tr>
<tr>
<td>4</td>
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<tr>
<td>5</td>
<td>34</td>
<td>-1</td>
<td>$3</td>
<td></td>
</tr>
</tbody>
</table>

38. Marginal product (MP) of the fourth worker is ________.
   a. 8.75
   b. 10
   c. 5
   d. 35

39. Value of the marginal product (VMP) of the first worker is ________.
   a. $9
   b. $27
   c. $15
   d. $30

40. According to the table above, if the wage rate is $15 per hour, what is the amount of labor that this firm should hire to maximize profits?
   a. 5 workers
   b. 4 workers
   c. 2 workers
   d. 1 worker.
Answer Key:

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