1. Which of the following is equivalent to the expenditures that firms incur in acquiring economic resources?
   A. Revenues of the resources
   B. Income of the resources
   C. Money of the resources
   D. Ownership of the resources

2. A firm that hires labor in a purely competitive resource market is a:
   A. "Price maker"
   B. "Product taker"
   C. "Money maker"
   D. "Wage taker"

3. An increase in the demand for HDTV sets leads to an increase in demand for LCD and LED TV screens. This situation arises because:
   A. LCD and LED screens minimize the costs of production
   B. The supply of LCD and LED screens has decreased
   C. The demand for LCD and LED screens is a derived demand
   D. Foreign production of LCD and LED screens

4. An example of derived demand in the auto industry is the demand for:
   A. New automobiles
   B. Used automobiles
   C. Auto workers
   D. Drivers' insurance

5. The marginal revenue product of an input in a competitive market decreases as a firm increases the quantity of the input employed because of the:
   A. Law of diminishing returns
   B. Law of diminishing marginal utility
   C. Homogeneity of the product
   D. Free mobility of resources

6. Marginal resource cost is:
   A. The increase in a firm's total cost caused by hiring one additional unit of an input
   B. A firm's cost of hiring one group of inputs, such as capital or labor
   C. The firm's demand curve for a productive resource
   D. Determined by the marginal physical product schedule for an input
7. Refer to the above graph, where TP = total product and L = labor input. The marginal revenue product of labor (MRP) for a purely competitive firm:
   A. Is constant
   B. Increases at an increasing rate
   C. Decreases as the labor input increases
   D. First decreases, then reaches its minimum and finally increases as the labor input increases

The following is a total-product schedule for a resource. Assume that the quantities of other resources the firm employs remain constant.

<table>
<thead>
<tr>
<th>Units of Resource</th>
<th>Total Product</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>24</td>
</tr>
<tr>
<td>2</td>
<td>42</td>
</tr>
<tr>
<td>3</td>
<td>54</td>
</tr>
<tr>
<td>4</td>
<td>64</td>
</tr>
<tr>
<td>5</td>
<td>72</td>
</tr>
</tbody>
</table>

8. Refer to the above table. If the firm’s product sells for a constant $2 and the price of the resource is a constant $16, the firm will employ how many units of the resource?
   A. 5
   B. 4
   C. 3
   D. 2

9. Refer to the above table. If the firm can produce 24 units at a price of $1.00, 42 units at a price of $0.80, and 54 units at a price of $0.60, then the firm is:
   A. Selling in a purely competitive market
   B. Selling in an imperfectly competitive market
   C. Minimizing its costs at a product price of $1.00
   D. Maximizing profits at a product price of $0.60
10. A profit-maximizing firm’s daily total revenue is $155 with 3 workers, $200 with 4 workers, and $230 with 5 workers. The cost of each worker is $40 per day. The firm should:
A. Not hire a fourth worker
B. Hire four workers
C. Hire five workers
D. Hire more than five workers

<table>
<thead>
<tr>
<th>Units of Resource</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Product</td>
<td>0</td>
<td>10</td>
<td>18</td>
<td>24</td>
<td>28</td>
<td>30</td>
</tr>
<tr>
<td>Total Revenue ($)</td>
<td>0</td>
<td>30</td>
<td>54</td>
<td>72</td>
<td>84</td>
<td>90</td>
</tr>
</tbody>
</table>

11. Refer to the above table. The marginal revenue product of the third unit of resource is:
A. $4
B. $8
C. $18
D. $72

12. Refer to the above table (above #11). The price of the product being produced by this resource is:
A. $1
B. $2
C. $3
D. $4

<table>
<thead>
<tr>
<th>Units of Resource</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Product</td>
<td>0</td>
<td>6</td>
<td>11</td>
<td>15</td>
<td>18</td>
<td>20</td>
</tr>
<tr>
<td>Total Revenue ($)</td>
<td>0</td>
<td>36</td>
<td>55</td>
<td>60</td>
<td>54</td>
<td>40</td>
</tr>
</tbody>
</table>

13. Refer to the above table. The marginal revenue product of the third unit of the resource is:
A. $3
B. $5
C. $19
D. $36

14. In a competitive resource market, a decrease in the demand for a productive resource, *ceteris paribus*, will cause all of the following *except* a(n):
A. Decrease in the price of the resource
B. Increase in the price of the resource
C. Decrease in the total income earned by all units of the resource
D. Decrease in the number of units of the resource that are employed

15. A decrease in the price of a productive resource, *ceteris paribus*, will cause all of the following *except* a(n):
A. Decrease in the quantity demanded of the resource
B. Substitution of the resource for other productive resources
C. Increase in the quantities produced and sold of commodities using the resource
D. Downward shift of the average total cost curves for all firms using the resource
16. In which case below will the elasticity of demand for laborers who produce yo-yos be most inelastic? The price elasticity of demand for yo-yos is:

A. 5, and labor's share of total costs is 20 percent
B. 5, and labor's share of total costs is 75 percent
C. .1, and labor's share of total costs is 20 percent
D. .1, and labor's share of total costs is 75 percent

17. What happens when technological advance makes available a new highly productive capital good for which MP/P is greater than for the labor for which it is a substitute resource?

A. Labor will replace the new capital because labor is now cheaper
B. The new capital will replace labor because it reduces the firms' costs
C. More of both the new capital and labor will be used because firms are more productive
D. Less of both the new capital and labor will be used because the firms do not know how to use the new technology

18. Suppose a competitive firm in both the factor and product markets is using inputs such that the marginal product of labor is 16 and the price of labor is $4 per unit, while the marginal product of capital is 12 and the price of capital is $3 per unit. At the maximum profit equilibrium point, the price of the product is:

A. $3
B. $4
C. $.25
D. Between $3 and $4

19. A major criticism of the marginal productivity theory of income distribution is that:

A. The demand for labor resources is price inelastic
B. Achieving equality in incomes will take time
C. Imperfectly competitive firms are only interested in profit maximization
D. Productive resources like land are unevenly distributed which causes excessive income inequality

20. The introduction of ATM machines allowed financial institutions to handle more transactions at less cost, thus decreasing the demand for human tellers. The best explanation for this change is that the:

A. Marginal product of ATMs was equal to its price
B. Marginal product of human tellers was equal to its price
C. Marginal product of human tellers divided by its price was greater than that for ATMs
D. Marginal product of ATMs divided by its price was greater than that for human tellers
21. What happened in the banking industry with the introduction of ATMs which had a higher MP/P than for the substitute resource of human tellers?
   A. Human tellers replaced many ATMs because people did not want to use ATMs
   B. ATMs replaced many human tellers because it reduced banks’ costs
   C. More of both ATMs and human tellers were used because banks were more productive
   D. Less of both ATMs and human tellers were used because banks did not know how to use the new technology

22. Which would result in a decrease in the elasticity of demand for a particular resource?
   A. A decrease in the rate at which the marginal product of that resource declines
   B. An increase in the elasticity of demand for the product that the resource helps to produce
   C. A decrease in the percentage of the firm’s total costs accounted for by the resource
   D. An increase in the substitutability of other resources for the particular resource

23. Which will not be a determinant of the price elasticity of demand for an input?
   A. The price of the input
   B. The substitutability of other resources for the input
   C. The elasticity of demand for the product it produces
   D. The total cost of an input as a proportion of the total cost of producing units of output

24. Which of the following increases labor demand is due to a change in the product demand?
   A. Access to computers increases the productivity of mail order businesses, thus increasing the demand for their workers
   B. Tourism increases in popularity, increasing the demand for workers at tourist resorts
   C. A decrease in the price of trucks decreases the cost of transporting goods, thus increasing the demand for truckers
   D. A change in work rules increases output per worker in the auto industry, thus increasing the demand for auto workers

25. Which of the following increases labor demand is due to a change in the price of a related resource?
   A. Software sales rise, thus increasing the demand for software developers
   B. Snowboarding increases in popularity, thus increasing the demand for the workers who make snowboards
   C. A decrease in the price of wood decreases the cost of furniture, thus increasing the demand for furniture workers
   D. A technological change increases output per worker in the computer industry, thus increasing the demand for computer workers
About the labor resource market faced by producers of good X:

26. Refer to the above graph. What will shift \( D_2 \) to \( D_1 \)?
   A. A decrease in productivity of labor
   B. A decrease in the price of labor
   C. A decrease in the price of complementary input
   D. A decrease in the price of a substitute input (if the output effect > substitution effect)

27. Which of the following decreases in labor demand is due to a change in the price of a related resource?
   A. A decline in the demand for computers in Europe reduces the demand for workers in the domestic computer industry
   B. The rise of hair salons for both men and women reduces the demand for barbers
   C. A decrease in the educational skills of manufacturing workers decreases the demand for such workers
   D. An increase in the price of chemical equipment increases the cost of producing fertilizer, thus decreasing the demand for workers who make fertilizer

28. If the price of a good increases, then in the market for labor which is used to produce this product:
   A. Employment will decrease
   B. The labor supply will increase
   C. The marginal product (MP) of labor will increase
   D. The marginal revenue product (MRP) of labor will increase

29. Suppose capital is readily substitutable for labor and that the price of capital falls. We can conclude that the:
   A. Substitution effect will tend to reduce the demand for labor
   B. Output effect will tend to reduce the demand for labor
   C. Demand for labor will necessarily decline
   D. Demand for labor will necessarily increase
30. The demand curve for labor will most likely increase when the price of a:
   A. Complementary input increases, provided the substitution effect is greater than the output effect
   B. Substitute input decreases, provided the output effect is greater than the substitution effect
   C. Substitute input increases, provided the output effect is greater than the substitution effect
   D. Substitute input decreases, provided the substitution effect is greater than the output effect

31. Two resource inputs, capital and labor, are complementary and used in fixed proportions. An increase in the price of capital will:
   A. Increase the demand for labor
   B. Decrease the demand for labor
   C. Decrease the quantity demanded for labor
   D. Have no effect because the relationship is fixed

32. Which would result in a decrease in the elasticity of demand for a particular resource?
   A. A decrease in the rate at which the marginal product of that resource declines
   B. An increase in the elasticity of demand for the product that the resource helps to produce
   C. A decrease in the percentage of the firm’s total costs accounted for by the resource
   D. An increase in the substitutability of other resources for the particular resource

33. Other things being equal, the elasticity of demand for labor will be greater the:
   A. Smaller the proportion of total costs accountable for by labor costs
   B. Smaller the elasticity of demand for the product it produces
   C. Larger the number of close substitute resources available
   D. More rapid the decline in its marginal productivity

34. Other things being the same, if the demand for labor is inelastic:
   A. Decreases in wage rates will result in greater payrolls
   B. Increases in wage rates will result in greater payrolls
   C. Increases in wage rates will result in smaller payrolls
   D. Decreases in wage rates will increase both employment and worker incomes

35. Other things being equal, a labor union will find it harder to obtain a wage increase for its members the:
   A. Less elastic is the demand for the product labor produces
   B. Easier it is to substitute other resources for labor
   C. Greater the amount of unionization in the industry
   D. Less elastic is the demand for labor
36. Assume that a purely competitive firm uses two resources, labor \((L)\) and capital \((C)\), to produce a certain product. In which situation would the firm be maximizing profit?

<table>
<thead>
<tr>
<th></th>
<th>MRP(_L)</th>
<th>MRP(_C)</th>
<th>(P_L)</th>
<th>(P_C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A)</td>
<td>$100</td>
<td>$200</td>
<td>$300</td>
<td>$400</td>
</tr>
<tr>
<td>B)</td>
<td>$100</td>
<td>$200</td>
<td>$300</td>
<td>$100</td>
</tr>
<tr>
<td>C)</td>
<td>$150</td>
<td>$200</td>
<td>$150</td>
<td>$200</td>
</tr>
<tr>
<td>D)</td>
<td>$300</td>
<td>$400</td>
<td>$300</td>
<td>$200</td>
</tr>
</tbody>
</table>

A. Choice A  
B. Choice B  
C. Choice C  
D. Choice D

37. A firm combines two resources, A and B, to produce an output \(Q\). Their respective marginal revenue products are $30 and $21. A costs $15 a unit and B $7 a unit. To reduce the cost of \(Q\):

A. More B and less A should be used  
B. More A and less B should be used  
C. More of both resources should be used  
D. Less of both resources should be used

38. Suppose that the production of wheat requires two inputs, labor and fertilizer. The price of labor is $4.50 and the price of fertilizer is $3.00. A farmer is currently employing the inputs such that the marginal product of labor is 11 and the marginal product of fertilizer is 8. If the farmer is a cost-minimizer, he should:

A. Use more labor and less fertilizer  
B. Use more fertilizer and less labor  
C. Use more labor and more fertilizer  
D. Continue using the same amounts of each input

39. A cost-minimizing firm using two inputs, \(x\) and \(y\), will employ inputs so that:

A. \(MP_x = MP_y\)  
B. \(P_x/MP_y = P_y/MP_x\)  
C. \(MP_x/P_x = MP_y/P_y\)  
D. \(P_x = P_y\)

40. A business is employing inputs such that the marginal product of labor is 40 and the marginal product of capital is 90. The price of labor is $20 and the price of capital is $30. If the business wants to minimize costs while keeping output constant, then it should:

A. Use more labor and less capital  
B. Use less labor and less capital  
C. Use less labor and more capital  
D. Make no change in resource use
41. In the marginal productivity theory of income distribution, when all markets are purely competitive, the payment for each unit of a resource is equal to its:
   A. Total product
   B. Marginal product
   C. Marginal revenue product
   D. Total revenue product

42. Critics of the marginal productivity theory of income distribution claim that the theory is flawed due to:
   A. The law of diminishing returns
   B. The existence of imperfect competition, such as of monopoly and monopsony, in output and resource markets
   C. The problem of comparing different kinds of resources, such as capital and labor
   D. Government policies which redistribute income

43. The reason that superstars are highly paid is because:
   A. They have a high marginal revenue product
   B. They have a low marginal revenue product
   C. There is a large supply of superstar talent
   D. There is a low demand for superstar talent