Choose the single best answer for each question. Do all of your scratch work in the margins or in the blank space at the bottom of page 6.

1. In most societies, resources are allocated primarily by
   a. government bureaus.
   b. a small number of central planners.
   c. the firms that produce goods and services.
   * the combined actions of millions of households and firms.

2. For which of the following individuals would the opportunity cost of going to college be highest?
   a. a promising young science student who needs a college degree to get into medical school.
   b. a student with average grades who has never held a job.
   * a highly-paid young movie star who takes time away from Hollywood to get her degree.
   d. a student athlete who is the best player on his college basketball team, but who lacks the skills necessary to play professional basketball.

3. Tina is planning to sell her house, and she is considering making two upgrades to the house before listing it for sale. Replacing the carpeting will cost her $3,000 and remodeling the kitchen will cost her $12,000. Tina expects the new carpeting to increase the value of her house by $1,000 and the remodeled kitchen to increase the value of her house by $10,000. Tina should
   a. make both improvements to her house.
   b. replace the carpeting but not remodel the kitchen.
   c. remodel the kitchen but not replace the carpeting.
   * not make either improvement to her house.

4. The observation that households and firms interacting in markets act as if they are guided by an "invisible hand" that leads them to desirable market outcomes is attributable to which famous economist?
   a. David Ricardo.
   c. John Maynard Keynes.
   * Adam Smith.

5. The government enforces property rights by
   a. requiring property owners to pay property taxes.
   * providing police and courts.
   c. forcing people to own property.
   d. restricting the ownership of firearms.
Questions 6 through 10 are based on the following information. Two small countries, Audubon and Guthrie, use their labor resources to produce goods of two types: manufactured goods and agricultural goods. The table below gives the number of hours of labor needed to produce one unit of each type of good in each country.

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<tr>
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<th>Hours needed to produce one unit of</th>
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<tr>
<td></td>
<td>manufactured goods</td>
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<tr>
<td>Audubon</td>
<td>3</td>
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<tr>
<td>Guthrie</td>
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6. The resource cost of one unit of manufactured goods in Guthrie is
   a. 4 units of agricultural goods.
   b. 2 units of agricultural goods.
   c. 4 hours.
   *. 2 hours.

7. The opportunity cost of one unit of agricultural goods in Audubon is
   a. 1/2 unit of manufactured goods.
   *. 1/6 unit of manufactured goods.
   c. 0.5 hours.
   d. none of the above.

8. Which of the following is true?
   *. Neither country has the absolute advantage in the production of agricultural goods.
   b. Neither country has the comparative advantage in the production of agricultural goods.
   c. a and b are both true.
   d. a and b are both false.

9. Suppose that there is an international market in which manufactured goods and agricultural goods can be traded. Audubon and Guthrie could engage in a mutually beneficial trade with each other if the trade price of one unit of manufactured goods was
   a. 1 unit of agricultural goods.
   b. 3 units of agricultural goods.
   *. 5 units of agricultural goods.
   d. All of the above. (Audubon and Guthrie could engage in a mutually beneficial trade at any price of manufactured goods.)

10. Suppose that there is an international market in which manufactured goods and agricultural goods can be traded. If the trade price of one unit of agricultural goods is one half unit of manufactured goods,
   a. Both countries would want to buy agricultural goods.
   *. Both countries would want to buy manufactured goods.
   c. Audubon would want to buy agricultural goods and Guthrie would want to buy manufactured goods.
   d. Audubon would want to buy manufactured goods and Guthrie would want to buy agricultural goods.
11. In conducting their research, economists face an obstacle that not all scientists face; specifically, in economics, it is often difficult and sometimes impossible to:

a. express theories in mathematical terms.

b. rely upon the scientific method.

c. conduct laboratory experiments.

d. accurately measure the quantities of interest.

12. Imagine a hypothetical economy that uses its resources in an efficient manner to produce two goods: widgets and gizmos. If the economy's production possibilities frontier is bowed outward, in which of the following cases will the economy's opportunity cost of widgets be the greatest?

a. Almost all of the economy's resources are devoted to widget production.

b. Almost all of the economy's resources are devoted to gizmo production.

c. The economy's resources are split relatively evenly between widget and gizmo production.

d. None of the above. (As long as the economy is using its resources in an efficient manner, the opportunity cost of widgets will be the same.)

13. An economy's resources can be used to produce cars and computers. The economy's production possibility frontier is a straight line reflecting the fact that the opportunity cost of a car is constant at a value of 10 computers/car. In one efficient allocation of its resources, the economy produces 70,000 computers/month and 5,000 cars/month. If the economy were to devote all of its resources to car production, it could produce _____. If it were to devote all of its resources to computer production, it could produce _____.

a. 7,500 cars/month; 75,000 computers/month.

b. 10,000 cars/month; 100,000 computers/month.

c. 12,000 cars/month; 120,000 computers/month.

d. None of the above.

14. Which of the following is an example of a normative (as opposed to a positive) statement?

a. A universal health care system would be good for the country.

b. An increase in the cigarette tax would cause a decrease in the number of smokers.

c. A decrease in the minimum wage would reduce unemployment.

d. An across-the-board reduction in income tax rates would lead to higher deficits.

15. When two countries specialize according to their comparative advantages and engage in mutually beneficial trade:

a. the production possibility frontiers move outward in both countries.

b. both countries end up consuming at points beyond their production possibility frontiers.

c. both countries end up consuming at points inside their production possibility frontiers.

d. None of the above.
Questions 16, 17, 18, and 19 refer to the following graph of supply and demand curves in a competitive market.

16. At a price of $p_1$, there would be
   a. excess supply in quantity $Q_5 - Q_3$.
   b. excess supply in quantity $Q_3 - Q_1$.
   c. excess demand in quantity $Q_5 - Q_1$.
   * None of the above.

17. When this market is in equilibrium, quantity demanded is
   a. $Q_2$.
   * $Q_3$.
   c. $Q_4$.
   d. None of the above.

18. A change in equilibrium to price $p_3$ and quantity $Q_4$ would require
   a. an increase in demand.
   * an increase in supply.
   c. a decrease in demand.
   d. a decrease in supply.

19. A change in equilibrium to price $p_1$ and quantity $Q_3$ would require
   a. a decrease in demand and a decrease in supply.
   b. a decrease in demand and an increase in supply.
   * an increase in demand and a decrease in supply.
   d. an increase in demand and an increase in supply.
20. The term *price takers* describes
a. buyers and sellers in a perfectly competitive market.
b. buyers, but not sellers, in a perfectly competitive market.
c. buyers and sellers in markets that are dominated by a few large firms.
d. sellers who are in a position to increase their profit by charging a higher price.

21. Which of the following is *not* a determinant of the quantity demanded of a good?
a. the average household income of consumers of the good.
b. the price of a substitute good.
c. the good's own price.
d. the price of a raw material used to produce the good.

22. A downward-sloping demand curve is a reflection of
a. the fact that demand decreases over time.
b. the fact that price falls over time.
c. the relationship between income and quantity demanded.
d. the law of demand.

23. Which of the following is most likely to be a pair of complement goods?
a. ice cream and frozen yogurt.
b. movie tickets and video rentals.
c. digital cameras and traditional-film cameras.
d. tennis rackets and tennis balls.

24. A decrease in supply is represented by a
a. movement down and to the left along a supply curve.
b. movement up and to the right along a supply curve.
d. leftward shift of a supply curve.
d. rightward shift of a supply curve.

25. Wheat is the main input in the production of flour. If the price of wheat decreases, we would expect the
a. demand for flour to increase.
b. demand for flour to decrease.
c. supply of flour to increase.
d. supply of flour to decrease.

26. A cost-saving innovation in the technology of tire production occurs at the same time as an increase in the price of rubber, an input in the production of tires. As a result of these two events,
a. the demand for tires decreases and the supply of tires increases.
b. the demand for tires is unaffected and the supply of tires decreases.
c. the demand for tires is unaffected and the supply of tires increases.
d. None of the above is necessarily correct.
27. What would be the effect on the competitive market for peanut butter of an increase in the price of grape jelly (a complement of peanut butter)? In the market for peanut butter, equilibrium price would
a. increase and equilibrium quantity would increase.
b. increase and equilibrium quantity would decrease.
c. decrease and equilibrium quantity would increase.
*. decrease and equilibrium quantity would decrease.

28. In a competitive market, which of the following would definitely result in a decrease in equilibrium quantity while allowing for the possibility that equilibrium price could increase, could decrease, or could remain unchanged?
a. an increase in demand and an increase in supply.
b. an increase in demand and a decrease in supply.
c. a decrease in demand and an increase in supply.
*. a decrease in demand and a decrease in supply.

29. Suppose that medical scientists announce their discovery that consumption of tomatoes, and products made from tomatoes, provides protection against cancer and heart disease. Suppose that, at the same time, the price of fertilizer (an input used to produce tomatoes) increases. What result would we see in the competitive market for tomatoes?
Equilibrium price
*. would increase, and equilibrium quantity could increase, decrease, or stay the same.
b. would decrease, and equilibrium quantity could increase, decrease, or stay the same.
c. could increase, decrease, or stay the same, and equilibrium quantity would increase.
d. could increase, decrease, or stay the same, and equilibrium quantity would decrease.

30. You observe that, in the competitive market for pork, a normal good, equilibrium quantity has increased over time while equilibrium price has remained about the same. Which of the following explanations is most consistent with this observation?
a. The price of beef (a substitute for pork) has decreased, and the price of corn (the principal ingredient in hog feed) has increased.
*. Average household income has increased, and new developments in production techniques have reduced cost on hog farms.
c. An outbreak of "swine flu" has led to an irrational consumer aversion to pork consumption and a relaxation of environmental regulations has made it less costly to raise hogs.
d. The pork producers association sponsored an advertising campaign that both increased their costs and stimulated consumer demand for pork.