**Key Concepts**

- **The Firm and Its Economic Problem**

  A **firm** is an institution that hires productive resources and uses these resources to produce and sell output. The firm’s goal is to maximize its (economic) profit, which equals its revenue minus its (opportunity) costs. The **opportunity cost** of any action is the highest-valued alternative foregone. A firm’s opportunity costs can be separated into explicit costs (costs for which an actual money payment is made) and implicit costs (opportunity costs not paid directly in money). Two common implicit costs are:

  - **Cost of capital** — The **implicit rental rate of capital**, the opportunity cost the business incurs by using its capital rather than renting the capital to another firm, is the sum of economic depreciation plus foregone interest costs. Economic depreciation of capital is the change in its market value over a given period.
  
  - **Cost of owners’ resources** — owners supply entrepreneurial ability to the business. Their compensation for this input is profit and the average return for supplying entrepreneurial ability is called **normal profit**.

  **Economic profit** = Total revenue – Opportunity cost.

  A business earning an economic profit is earning a profit that exceeds the normal profit.

  Three features limit a firm’s profit:

  - **Technology constraints** — a technology is any method of producing a good or service. Technology limits how a firm can turn resources into output.
  
  - **Information constraints** — the future is always uncertain and elements of the present (are workers working hard?) are unknown.

  - **Marketing constraints** — how much the firm can sell and at what price are limited by its customers’ willingness to buy its products.

- **Technology and Economic Efficiency**

  - **Technological efficiency** — when a given output is produced using the least amount of inputs.
  
  - **Economic efficiency** — when output is produced at the lowest cost possible.

  If a business is economically efficient, it must be technologically efficient, but technological efficiency does not necessarily imply economic efficiency.

- **Information and Organization**

  - **Command system** — organizes production within a firm using a managerial hierarchy, so that commands go from managers to workers.
  
  - **Incentive system** — organizes production within a firm using market-like mechanisms, so that incentives are set up to induce workers to maximize the firm’s profit.

  The **principal–agent problem** is to set rules for compensation so that agents (people employed by others) act in the best interests of the principals (the individuals who employ the agents). Giving managers partial ownership of the company, using incentive pay, and using long-term contracts help overcome the principal-agent problem.

  Three forms of business organization are:

  - **Proprietorship** — a single owner with unlimited liability. Profits are taxed once.
  
  - **Partnership** — two or more owners with unlimited liability. Profits are taxed once.
  
  - **Corporation** — a business owned by stockholders who have limited liability. Corporate profits are
taxed twice: the corporation pays taxes on its profits and its shareholders pay taxes on any dividends they receive. Shareholders also pay tax on capital gains—the income received when a share of stock is sold for a higher price than was paid for it.

There are more proprietorships than any other type of business, but corporations account for the lion’s share of total business revenue.

### Markets and the Competitive Environment

Economists define four market types:

- **perfect competition** — a market with many firms and buyers, each firm sells an identical product, and there are no restrictions on entry of new firms.
- **monopolistic competition** — a market structure with a large number of firms, and each firm makes a slightly different product. Making a slightly different product is called **product differentiation**.
- **oligopoly** — a market structure in which a small number of firms compete.
- **monopoly** — an industry that produces a good or service for which no close substitute exists and in which there is one supplier that is protected by a barrier preventing the entry of new firms.

Two measures of market concentration are used:

- **Four-firm concentration ratio** — the percentage of an industry’s sales made by its four largest firms.
- **Herfindahl–Hirschman Index (HHI)** — the sum of the squared market shares of the 50 largest firms in the industry.

A low value for the measure of concentration indicates the presence of extensive competition.

Concentration ratios have limitations:

- They are calculated for the national market, but the relevant market for some goods is local and for others is international in scope.
- They give no indication of the existence or absence of entry barriers. An industry with a small number of firms may be competitive due to potential entry.
- Often the relevant market does not correspond to an industry as defined in the measures.
- Many firms operate in several industries. In the United States, competitive markets account for about 75 percent of the value of goods sold, monopoly accounts for about 5 percent, and oligopoly is near 18 percent.

### Markets and Firms

Firms coordinate economic activity when they perform the task more efficiently than markets. Firms can have several advantages:

- **lower transactions costs** — **transactions costs** are the costs of finding someone with whom to do business.
- **economies of scale** — when the cost of producing a unit of output falls as more output is produced.
- **economies of scope** — when specialized resources can be used to produce a variety of products.
- **economies of team production** — when individuals specialize in tasks that help support each other’s production.

Firms can have lower transactions costs than using a market and economies of scale, scope, and team production can mean that production within a firm can be less expensive than using a market.

### Helpful Hints

1. **Normal Profit as a Cost of Doing Business:**
   The idea of a normal profit is important. A normal profit is the (implicit) cost of buying an owner’s entrepreneurial ability—for instance, the owner’s ability to make sound business decisions.

   Normal profit is part of the firm’s opportunity cost of doing business, in the same way that paying workers’ wages or interest on debt are opportunity costs to the firm. Think of costs as expenses that must be paid; if a company fails to meet its expenses, it will (eventually) close. For example, if a business cannot pay its workers their wages or its debt holders the interest due to them, the firm will have to shut down. Similarly, if it cannot return at least a normal profit to its owners to compensate them for their talents in running the business, eventually the firm will close as the owners take up other endeavors.

2. **Economic Profit and Normal Profit:** Economic profit is revenue minus all opportunity costs. Because a normal profit is already part of the firm’s opportunity costs, an economic profit signifies a profit over and above the normal profit; that is, an economic profit is an above-normal profit.
**Questions**

**True/False and Explain**

**The Firm and Its Economic Problem**

1. A firm’s opportunity costs include both its explicit and implicit costs.
2. The wages a firm pays its workers are an implicit opportunity cost of running the business.
3. A firm’s normal profit is part of the opportunity costs of running the business.
4. Technology limits a firm’s profits.

**Technology and Economic Efficiency**

5. By definition, a firm is economically efficient whenever it is the case that the business must increase its use of resources in order to increase the amount it produces.
6. If a firm is economically efficient, it must be technologically efficient.

**Information and Organization**

7. In an incentive system of organizing a business, a manager’s commands give the workers the incentive to maximize the firm’s profit.
8. A sales associate working in the sportswear department at JCPenney is an example of an “agent.”
9. Giving top executives of large corporations stock in their companies is a method of handling a principal-agent problem.
10. If a proprietorship fails, the owner is responsible for all the firm’s debts.
11. A major advantage of the corporate form of business organization is limited liability.
12. A major disadvantage of the corporate form of business organization is that corporations’ profits are taxed twice.

**Markets and the Competitive Environment**

13. Monopolistic competition occurs when monopolies compete with each other.
14. The four-firm concentration ratio is the sum of the squared market shares of the four largest firms in an industry.
15. A low concentration ratio indicates a low level of competition.
16. Concentration ratios indicate that most of the nation’s goods and services are produced in oligopolistic markets.

**Markets and Firms**

17. Transaction costs are a reason why firms can be more efficient than markets in coordinating economic activity.
18. Markets — rather than firms — likely will coordinate economic activity in situations where there are economies of scale.

**Multiple Choice**

**The Firm and Its Economic Problem**

1. A firm’s goal is to maximize its
   a. revenue.
   b. costs.
   c. profit.
   d. None of the above.

2. Which of the following is an implicit cost of operating a business?
   a. The wages paid to the workers.
   b. The salary paid to the owners.
   c. The interest not earned on funds used to buy capital equipment.
   d. The interest paid on a bank loan the owners incurred to help finance the company.

3. Which of the following is an explicit cost of operating a business?
   a. The firm’s normal profit.
   b. The firm’s economic profit.
   c. The firm’s economic depreciation.
   d. The amount the firm pays to the Post Office to mail its bills.

4. A normal profit is
   a. an explicit opportunity cost of the company.
   b. a cost that is always accurately measured by an accountant.
   c. the amount of profit an accountant calculates for a company.
   d. not the same as the company’s economic profit.
5. Which of the following constraints limits a firm’s profit?
   a. Technology constraints.
   b. Information constraints.
   c. Market constraints.
   d. All of the above limit a firm’s profit.

Technology and Economic Efficiency

Use Table 9.1, which shows four methods of producing photon torpedoes, for the next three questions.

<table>
<thead>
<tr>
<th>Method</th>
<th>Labor</th>
<th>Capital</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>5</td>
<td>10</td>
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<tr>
<td>2</td>
<td>10</td>
<td>7</td>
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<tr>
<td>3</td>
<td>15</td>
<td>5</td>
</tr>
<tr>
<td>4</td>
<td>20</td>
<td>5</td>
</tr>
</tbody>
</table>

6. Which is a technologically inefficient method of making a photon torpedo?
   a. Method 1 only
   b. Method 2 only
   c. Method 3 only
   d. Method 4 only

7. If labor costs $10 per unit and capital $20 per unit, which is an economically efficient method of making a photon torpedo?
   a. Method 1 only
   b. Method 2 only
   c. Method 3 only
   d. All four methods are economically efficient.

8. If labor costs $10 per unit and capital falls to $15 per unit, which is an economically efficient method of making a photon torpedo?
   a. Method 1 only
   b. Method 2 only
   c. Method 3 only
   d. All four methods are economically efficient.

Information and Organization

9. The method of organizing production that uses a managerial hierarchy is a(n)
   a. command system.
   b. incentive system.
   c. principal-agent system.
   d. None of the above.

10. The possibility that an employee might not work hard is an example of the
    a. problem of opportunity cost.
    b. principle of scarcity.
    c. limited liability doctrine.
    d. principal-agent problem.

11. Most firms are
    a. proprietorships.
    b. partnerships.
    c. corporations.
    d. nonprofit.

12. A form of business that is simple to set up, whose profits are taxed only once, and is run by a single owner is a
    a. proprietorship.
    b. partnership.
    c. corporation.
    d. either a proprietorship or partnership, depending on other information.

13. The major disadvantage of the corporate form of business organization is its
    a. limited liability for its owners.
    b. unlimited liability for its owners.
    c. ability to be run by professional managers.
    d. tax liability (its profits are taxed twice).

For the next two questions, suppose that Tracy and Pat start a business. Because of bad decisions by Tracy, the company goes bankrupt, owing a total of $50,000. Tracy is penniless, but Pat is a multimillionaire.

14. If the company were organized as a partnership, Pat would be responsible for
    a. $100,000 of debt.
    b. $50,000 of debt.
    c. $25,000 of debt.
    d. $0 of debt.
15. If the company were organized as a corporation, Pat would be responsible for
a. $100,000 of debt.
b. $50,000 of debt.
c. $25,000 of debt.
d. $0 of debt.

Markets and the Competitive Environment
16. What type of industry structure has many firms, each producing a slightly different good, with no barriers to entry or exit?
   a. Perfect competition
   b. Monopolistic competition
   c. Oligopoly
   d. Monopoly

17. The four-firm concentration ratio measures the share of the largest four firms in total industry
   a. profits.
   b. sales.
   c. cost.
   d. capital.

<table>
<thead>
<tr>
<th>Table 9.2</th>
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</thead>
<tbody>
<tr>
<td><strong>Market Shares</strong></td>
</tr>
<tr>
<td>Firm</td>
</tr>
<tr>
<td>Sally’s Subs</td>
</tr>
<tr>
<td>Samantha’s Subs</td>
</tr>
<tr>
<td>Susan’s Subs</td>
</tr>
<tr>
<td>Sydna’s Subs</td>
</tr>
<tr>
<td>Sheryl’s Subs</td>
</tr>
<tr>
<td>Shirley’s Subs</td>
</tr>
</tbody>
</table>

18. In Table 9.2 what is the four-firm concentration ratio in the submarine sandwich industry?
   a. 100 percent
   b. 85 percent
   c. 70 percent
   d. 30 percent

Markets and Firms
19. Which of the following is NOT a reason for the existence of firms?
   a. Lower transactions costs for firms
   b. Principal-agent problem
   c. Economies of scope
   d. Economies of team production

20. Taco Bell can use its equipment and staff to produce and sell tacos, burritos, and drinks less expensively than would be the case if each had to be purchased separately in a market. This situation demonstrates
   a. economies of scale.
   b. economies of scope.
   c. long-term contracts.
   d. none of the above.

Short Answer Problems
1. Contrast how an accountant would measure the following with the opportunity cost approach.
   a. depreciation cost.
   b. the firm borrowing money to finance purchasing its capital.
   c. the firm using its own funds rather than borrowing to purchase its capital.
   d. the value of the business owner’s inputs.

2. Frank decides to start a business manufacturing doll furniture. Frank has two sisters: Angela is an accountant and Edith is an economist. Each of the sisters uses the following information to compute Frank’s costs and profit for the first year.
   1) Revenue — Frank’s revenue for his first year was $100,000.
   2) Alternative job — Frank took no income from the firm. He has an offer to return to work full time as a bricklayer for $30,000 per year.
   3) Rent — Frank rented his machinery for $9,000 a year.
   4) Garage — Frank owns the garage in which he works but could rent it out at $3,000 per year.
   5) Invested funds — to start the business, Frank used $10,000 of his own money from a savings account that paid 10 percent per year interest. Frank also borrowed $30,000 at 10 percent per year.
   6) Employee — Frank hired one employee at an annual salary of $20,000.
   7) Materials — the cost of materials during the first year was $40,000.
   8) Services — Frank’s entrepreneurial services are worth $20,000 to his business.
   a. Set up a table indicating how Angela and Edith would compute Frank’s cost.
   b. What is Frank’s profit (or loss) as computed by Angela? By Edith?
3. The standard tip in a restaurant is 15 percent. Restaurants could raise their prices 15 percent, set a policy of no tipping, and then give their servers the extra 15 percent. Explain why restaurants do not do so by focusing on the principal-agent problem.

4. Is the principal-agent problem between the owner(s) and manager(s) more severe in proprietorships or corporations? Why?

5. Distinguish between technological efficiency and economic efficiency.

6. Considering the geographic scope of markets, how might a concentration ratio understate the degree of competitiveness in an industry? How might it overstate the degree of competitiveness?

7. Markets and firms are alternative ways of coordinating economic activity. Why do both firms and markets exist?

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**You’re the Teacher**

1. “I don’t understand the difference between a ‘normal profit’ and an ‘economic profit’. And, what’s more, why should I care? After all, a profit is a profit! Explain to your friend the difference and why the difference matters …especially if you own a business!”

2. Answer this question posed to you by a classmate: “How can a situation be technologically efficient and not economically efficient?”
ANSWERS

■ True/False Answers

The Firm and Its Economic Problem
1. T  Opportunity costs include all the costs of running a business.
2. F  The wages are an explicit cost, that is, a cost paid in money.
3. T  The normal profit is the payment accruing to an owner for the owner’s entrepreneurial ability.
4. T  Other limiting factors are information and marketing constraints.

Technology and Economic Efficiency
5. F  The question gives the definition of technological efficiency.
6. T  Economic efficiency means that the firm necessarily is technologically efficient; technological efficiency, however, does not necessarily mean that the firm is economically efficient.

Information and Organization
7. F  An incentive system sets up incentives, such as paying sales agents by commission, that give workers the incentive to maximize the firm’s profit.
8. T  The sales associate is (indirectly) hired by the shareholders of JCPenney to help sell sportswear. The associate is an agent for the owners, who are the principals.
9. T  Because the price of a share of stock generally rises when the company increases its profits, giving executives stock in the company gives executives the incentive to maximize the company’s profit.
10. T  The owners of proprietorships and partnerships face unlimited liability for the debts of their companies.
11. T  Limited liability means that owners of corporations are not liable for its debts if the company goes bankrupt.
12. T  Corporate profits are taxed once as income to the corporation. Then, when sent to owners in the form of dividends, they are taxed again as part of the owners’ incomes.

Markets and the Competitive Environment
13. F  Monopolistic competition occurs when many firms, each making a slightly differentiated product, compete with each other.
14. F  The four-firm concentration is the sum of the market shares of the four largest firms.
15. F  A low concentration ratio indicates a high degree of competition.
16. F  Most of the goods and services are produced in competitive markets.

Markets and Firms
17. T  Doing business with a firm might require only one transaction, whereas conducting the same business in markets might require many transactions.
18. F  When there are economies of scale — so that the cost of producing an item falls as more are produced — firms will coordinate the activity because they can capture these economies of scale.

■ Multiple Choice Answers

The Firm and Its Economic Problem
1. c  By maximizing its profit, the firm insures that it has the best chance of surviving and makes its owners as well off as possible.
2. c  By using the funds to buy capital equipment, interest on them foregone, so the lost interest is an opportunity cost of running the business.
3. d  An explicit cost is a cost paid in money and only answer (d) is actually paid in money.
4. d  Economic profit is any profit over and above normal profit.
5. d  All of the constraints limit the amount of profit a firm can earn.

Technology and Economic Efficiency
6. d  Method 4 uses more labor and the same capital as method 3; as a result, it is technologically inefficient.
7. b  Method 2 costs $240 to produce a photon torpedo, whereas methods 1 and 3 cost $250.
8. a  With the change in input prices, method 1 costs $200, which is less than method 2 ($205) and method 3 ($225).
Information and Organization

9. a. The question gives the definition of a command system.

10. d. By loafing, the agent — the employee — takes an action that is not in the best interests of the principal — the owner.

11. a. Proprietorships are the most numerous type of business organization.

12. a. Answers (b) and (d) are incorrect because partnerships (which are easy to set up and whose profits are taxed only once) have more than one owner.

13. d. The income is taxed once when the corporation earns it as a profit and then is taxed again when it is sent by the corporation to the corporation’s owners.

14. b. As a partnership, Pat has unlimited liability for all the firm’s debts.

15. d. If the company is a corporation, Pat’s liability is limited to the initial amount invested, so Pat has no additional liability for the $50,000 debt.

Markets and the Competitive Environment

16. b. Monopolistic competition is similar to perfect competition insofar as there are many firms with no barriers to entry or exit. It is dissimilar in that each firm produces a unique but closely related good.

17. b. Adding the percentage of the industry’s sales made by the four largest firms is the definition of the four-firm concentration ratio.

18. b. Add the market shares of the four largest firms.

Markets and Firms

19. b. The principal-agent problem is a difficulty that firms must overcome.

20. b. Economies of scope are present when production of a variety of products lowers the cost of producing each unit.

Answers to Short Answer Problems

1. a. An accountant measures depreciation using IRS specified rules, under which depreciation cost is computed as a prespecified percentage of the original purchase price of the capital good, with no reference to current market value. The opportunity cost approach measures economic depreciation, the change in the market value of the capital good over the period in question.

b. If a firm borrows money, the accountant’s cost and the opportunity cost are the same; both include the explicit interest payments because the interest expense is the opportunity cost of the loan.

c. If a firm uses its own funds rather than borrowing, the accountant’s cost and the opportunity cost differ. The accounting cost is zero because there are no explicit interest payments. The opportunity cost approach recognizes that those funds could have been loaned and so the (implicit) interest income forgone is the opportunity cost.

d. If the owner forgoes the opportunity for other employment, this loss of income is not part of the accounting costs even though it is an opportunity cost. If the owner draws a salary, it will be captured as both an opportunity cost and an accounting cost. In addition, whether or not the owner took money from the business, the cost of the entrepreneurial talent the owner provides to the business is always an opportunity cost — the firm’s normal profit.

<table>
<thead>
<tr>
<th>Item</th>
<th>Accounting cost (Angela’s costs)</th>
<th>Economic cost (Edith’s costs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Revenue</td>
<td>$100,000</td>
<td>$100,000</td>
</tr>
<tr>
<td>2) Alternative job</td>
<td>0</td>
<td>30,000</td>
</tr>
<tr>
<td>3) Rent</td>
<td>9,000</td>
<td>9,000</td>
</tr>
<tr>
<td>4) Garage</td>
<td>0</td>
<td>3,000</td>
</tr>
<tr>
<td>5) Invested funds</td>
<td>3,000</td>
<td>4,000</td>
</tr>
<tr>
<td>6) Employee</td>
<td>20,000</td>
<td>20,000</td>
</tr>
<tr>
<td>7) Materials</td>
<td>40,000</td>
<td>40,000</td>
</tr>
<tr>
<td>8) Services</td>
<td>0</td>
<td>20,000</td>
</tr>
</tbody>
</table>

2. a. Table 9.3 shows how Angela, the accountant, and Edith, the economist, calculate Frank’s cost and revenue for each item listed.

b. Accounting profit equals revenue minus accounting cost, and economic profit equals revenue minus opportunity cost. The accounting cost is the sum of the accounting costs listed for items 2 to 8, or $72,000, and the opportunity cost is the sum of the economic costs listed for
items 2 to 8, or $126,000. Hence Frank’s accounting profit is $28,000 and his economic profit actually is an economic loss of –$26,000.

3. Restaurants are faced with a classic principal-agent problem because servers might provide poor service to the customers. Rather than attempt to have the manager closely monitor each server, delegating the monitoring to customers is more efficient. If the server gives good service, the customer might tip the server 15 percent or more; if the server provides poor service, the customer will easily note this fact and might tip less than 15 percent. Hence the server has the incentive to be a good agent and provide prompt, good service, which is precisely what the principal — the restaurant’s owner — wants.

4. The principal-agent problem between owners and managers is more severe in corporations. For a proprietorship, the owner is usually the manager. Because the owner and manager are the same person, there is no principal-agent problem. In corporations, however, the owners are the stockholders. For instance, if you own 100 shares of Microsoft, you are one of many owners of Microsoft. But, most stockholders do not manage the company. Hence the managers and owners are different people. The owners must be concerned that the managers act to maximize the firm’s profit rather than pursuing their own goals, such as shirking rather than working diligently.

5. A method is technologically efficient if increasing output without increasing inputs is not possible. A method is economically efficient if the cost of producing a given level of output is as low as possible. Technological efficiency is independent of prices, but economic efficiency depends on the prices of inputs. An economically efficient method of production is always technologically efficient, but a technologically efficient method is not necessarily economically efficient.

6. Concentration ratios are calculated from a national geographic perspective. If the actual scope of the market is not national, the concentration ratio will likely misstate the degree of competitiveness in an industry. If the actual market is global, the concentration ratio will understate the degree of competitiveness. A firm might have a concentration ratio of 100 as the only producer in the nation, but might face a great deal of international competition. For instance, this situation closely resembles the case of certain types of computer memory chips with only one American producer but many producers of the same chip abroad.

When the scope of the market is regional, the concentration ratio will overstate the degree of competitiveness. The concentration ratio includes companies elsewhere in the nation that are not real competitors in the region. Newspapers provide the classic example: A paper published in Maine is hardly a competitor for a newspaper published in San Francisco.

7. As demonstrated by the example in the text, car repair can be coordinated by the market or by a firm. The institution (market or firm) that actually coordinates in any given case is the one that is more efficient. In cases where there are significant transactions costs, economies of scale, or economies of team production, firms are likely to be more efficient and they will dominate the coordination of economic activity. But the efficiency of firms is limited, and there are many circumstances where market coordination of economic activity dominates because it is more efficient. Essentially, if coordination by firms is more efficient, the number of firms increases because doing business with them is cheaper than relying on a market. Conversely, if coordination by the market is more efficient, firms will not be able to compete successfully because doing business with them would be more expensive than relying on a market.

**You’re the Teacher**

1. “The difference between a ‘normal profit’ and an ‘economic profit’ is important. Every business owner supplies some inputs to the business. One of these inputs is entrepreneurial talent — the decisions, leadership, and possibly insight that the owner provides. Normal profit is the payment for these services. Because this payment (perhaps implicitly) is for services rendered, a normal profit is part of the firm’s opportunity costs. Essentially, you should think of the normal profit as the standard — average — payment owed to an owner of a business. An economic profit equals the firm’s revenues minus its opportunity costs. Because opportunity costs already include normal profit, an economic profit is a profit over-and-above a normal profit. Basically, an economic profit is an above-average profit.”
“Technological efficiency merely reflects a firm’s inputs and resulting output. A situation is technically efficient when producing more output without using more inputs is impossible. The converse is that technological efficiency occurs whenever decreasing the amount of an input used decreases the amount of output produced. In other words, the firm is not wasting resources.

“Economic efficiency occurs when the cost of producing a given amount of output is as low as possible. Clearly, if a firm is wasting resources — so that it is possible to reduce the amount of an input without decreasing the amount produced — the business is not economically efficient because decreasing an input will reduce the firm’s costs. Hence, if a firm is economically efficient, it must be technologically efficient, too.

“But a firm can be technologically efficient and not economically efficient if it uses the ‘wrong’ mix of inputs. For instance, the local McDonald’s could hire brain surgeons rather than students to cook its burgers. This move would be technologically efficient because someone is required to cook the burgers. But it would not be economically efficient because the students would work for about $14,000 a year, whereas the brain surgeons command at least $500,000 a year.”
Chapter Quiz

1. Which of the following statements is correct?
   a. The firm’s goal is to maximize its revenue.
   b. The firm seeks to produce at the lowest possible ratio of labor to capital.
   c. Successful firms have completely overcome the principal-agent problem.
   d. The firm’s goal is to maximize its profit.

2. A ____ is an agent and a(n) ____ is its principal.
   a. baseball player; baseball manager
   b. manager of a department at Sears; sales clerk working in the department at Sears
   c. partnership; corporation
   d. movie star; elected official

3. Which of the following is NOT an attempt to overcome a principal-agent problem?
   a. Giving managers long-term contracts.
   b. Paying employees a bonus from the firm’s profit.
   c. Granting managers partial ownership of the company.
   d. Granting owners of corporations limited liability.

4. A disadvantage of the corporation over other forms of business organization is that the
   a. owners of a corporation have unlimited liability.
   b. decision-making structure in a corporation is simple.
   c. profits of the corporation are taxed twice.
   d. corporation can be run by professional managers.

5. As a one-quarter partner in a partnership, Sue is legally responsible for
   a. none of its debts.
   b. one-quarter of its debts.
   c. all of its debts.
   d. a fraction of its debts that depends upon how heavily Sue was involved in running the business.

6. The larger an industry’s four-firm concentration ratio,
   a. the more competitive the industry.
   b. the less competitive the industry.
   c. the larger the industry’s total sales.
   d. the more firms in the industry.

7. A market with only a few firms competing in it is a(n)
   a. perfectly competitive market.
   b. monopolistically competitive market.
   c. oligopoly.
   d. monopoly.

8. Firms typically incur only explicit costs for
   a. the use of capital equipment.
   b. the firm’s normal profit.
   c. the owner’s time and effort.
   d. the employees’ time and effort.

9. Which of the following describes a situation in which a firm rather than a market coordinates economic activity?
   a. There are only a few, low transactions costs of negotiating the buying and selling for a product.
   b. There are no economies of scale present.
   c. There are substantial economies of team production.
   d. If one producer produced a variety of products, its costs quickly and substantially would increase.

10. Both the four-firm concentration ratio and the Herfindahl-Hirschman index attempt to measure
    a. the number of buyers in a market.
    b. the number of sellers in a market.
    c. the extent of competition in a market.
    d. the total economic profit earned by the firms in an industry.

The answers for this Chapter Quiz are on page 367