Section 2

Monopoly

Objectives You may wish to call students' attention to the objectives in the Section Preview. The objectives are reflected in the main headings of the section.

Bellringer Ask students if they have ever played the game Monopoly®. Ask them to explain the reason for its name. Explain to students that in this section they will learn about the characteristics of monopoly markets.

Vocabulary Builder Have students find the definitions of each key term listed in the Section Preview. Then have students create fill-in-the-blank sentences for each term. Ask students to read their sentences aloud, letting their classmates identify the correct terms.

Lesson Plan

Teaching the Main Concepts L3

1. Focus A major characteristic of a monopoly is that it is made up of a single seller. Ask students to give examples of firms that they think are monopolies and to identify any elements they have in common.

2. Instruct Begin by making sure that students understand what a monopoly is. Then discuss how monopolies are formed, including government monopolies. Be sure that students understand that a monopolist maximizes profits by producing at a level of output at which marginal cost equals marginal revenue.

3. Close/Reteach Ask small groups of students to create scenarios similar to the Leland/BreatheDeep example on p. 159. Suggest that they illustrate their work. Have them present their scenarios to the class along with any graphics they have created.

Guided Reading and Review
Unit 2 folder, p. 37 asks students to identify the main ideas of the section and to define or identify key terms.

Section 2 Monopoly

Preview

Objectives

After studying this section you will be able to:

1. **Describe** characteristics and give examples of monopoly.
2. **Describe** how monopolies are formed, including government monopolies.
3. **Explain** how a firm with a monopoly sets output and price, and why companies practice price discrimination.

Section Focus

A firm has a monopoly when it controls an entire market. Because a monopolist controls the price of its product, a monopoly produces less and charges higher prices than would a perfectly competitive firm.

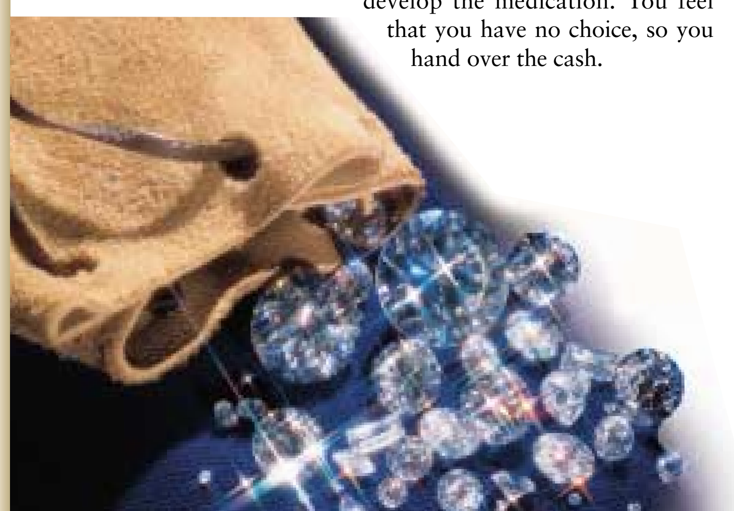
Key Terms

monopoly
economies of scale
natural monopoly
government monopoly
patent
franchise
license
price discrimination
market power

monopoly *a market dominated by a single seller*

You've gone to the emergency room with a high fever and a sharp pain in your leg. The doctor diagnoses a rare infection and writes a prescription for ten pills of a new medication that the government approved just last year. The doctor tells you that without this medication, your recovery will be slow.

At the pharmacy, you find that the medicine costs $97.35, or nearly ten dollars a pill! The pharmacist tells you that only one company has the right to produce the medicine, and it charges a high price because its scientists worked for years to develop the medication. You feel that you have no choice, so you hand over the cash.



▼ **One company, DeBeers of South Africa, has almost total control over the world's diamond supply.**

The market for prescription medicines is one of many markets in which monopolies can develop. In this section you will read about different types of monopolies and how they form.

Describing Monopoly

A **monopoly** forms when barriers prevent firms from entering a market that has a single supplier. While a perfectly competitive market has many buyers and sellers, monopoly markets have only one seller, but any number of buyers. In fact, barriers to entry are the principal condition that allows monopolies to exist.

While you can probably think of several companies that look and act like monopolies, economists use a strict set of requirements to define a monopoly. If we define the good or service provided by a company broadly enough, we can usually find substitute goods from a different source. For example, you might think that a convenience store on a highway in the middle of the desert has a monopoly. However, you could have carried more water in the car, or, if you had enough money, you might have flown across the desert instead of paying high prices for food and water during the car trip.

BUILDING KEY CONCEPTS Graphing the Main Idea

Competition To build understanding of the concept of **competition,** have students use a web graphic organizer like the one below to explain the various conditions that lead to monopolies. Remind students that a web shows a main idea and its supporting details.

Section Reading Support Transparencies A template and the answers for this graphic organizer can be found in Chapter 7, Section 2 of the Section Reading Support Transparency System.

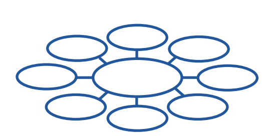
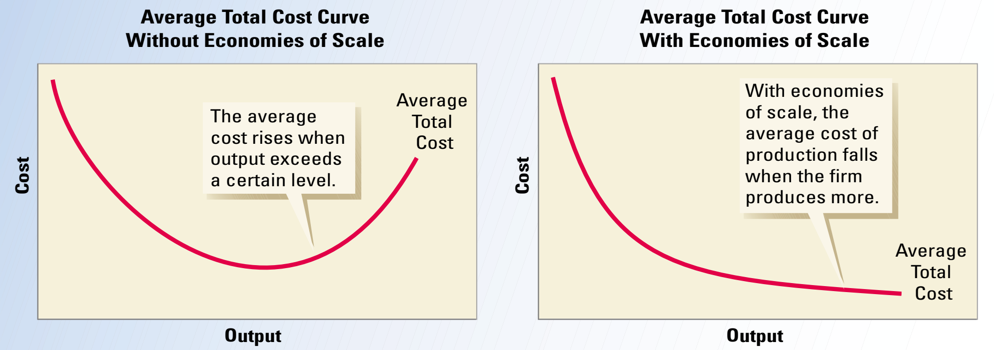


Figure 7.3 **Effect of Economies of Scale**



With economies of scale, production costs continue to fall as output increases.

Markets and Prices **Describe the cost curve for a firm without economies of scale.**

The problem with monopolies is that they can take advantage of their market power and charge high prices. Given the law of demand, this means that the quantity of goods sold is lower than in a market with more than one seller. For this reason, the United States has outlawed some monopolistic practices, as you will read in Section 4.

Forming a Monopoly

All monopolies have one trait in common: a single seller in a market. However, different market conditions can create different types of monopolies.

Economies of Scale

If a firm's start-up costs are high, and its average costs fall for each additional unit it produces, then it enjoys what economists call **economies of scale.** Economies of scale are characteristics that cause a producer's average cost to drop as production rises.

The graph on the left in Figure 7.3 above shows an average total cost curve for a firm without economies of scale. Follow the curve from left to right. As output increases from zero, the average cost of each good drops, and the curve initially slopes downward. This is because large, initial, fixed costs, like the cost of the factory and machinery, can be spread out among more and more goods as production rises. If the factory cost $1,000 to build and each unit of output costs $10 to make, producing one unit will cost $1,010, but producing two units will cost $1,020, or only $510 each. However, if the industry has limited economies of scale, output will eventually rise to a level at which the limited scale economies are exhausted, and the cost of making each unit will rise. The average cost of producing each good increases as output increases, and the curve slopes upward to match the rising cost per unit.

A factory in an industry with economies of scale never reaches this second stage of rising costs per unit. As production increases, the firm becomes more efficient, even at a level of output high enough to supply the entire market. The graph on the right in Figure 7.3 above shows how cost and output are related in economies of scale. Follow the curve from left to right. As output increases, the cost per unit falls, and continues to fall.

A good example is a hydroelectric plant, which generates electricity from a dam on a river. A large dam is expensive to build.

economies of scale *factors that cause a producer's average cost per unit to fall as output rises*

Differentiated Instruction L3

(Enrichment) To help students understand how economists define a monopoly, have them work in small groups to find out about monopolies during specific periods of history. Students might, for example, choose guilds as a focus. Ask them to research the characteristics of guilds that resulted in their functioning as monopolies. Have each group present its findings as an illustrated poster.

Differentiated Instruction L3

To help students transfer information from one medium to another (data to graph), display the following aluminum production data in table form. (Create two columns: "Quantity Produced" and "Average Cost.") *0.5 million pounds of aluminum produced/$2.80 per pound; 1 million pounds/$2.10 per pound; 1.5 million pounds/$1.80 per pound; 2 million pounds/$1.60 per pound; 2.5 million pounds/$1.53 per pound.* Ask students to plot a graph that shows these data. If available, have students use a computer graphing software in this activity. Display the graphs and discuss what they show about economies of scale.

Transparency Resource Package
Economics Concepts, 7C: Monopoly

Econ 101: Key Concepts Made Easy

Markets and Prices One of the key concepts in this section is that output affects **marginal revenue.** Total revenue is the money a firm gets by selling its product—the price multiplied by the quantity sold. A firm's marginal revenue is the change in total revenue that results from selling two different quantities of output.

To help students understand how marginal revenue is determined, refer them to the table on p. 161. Explain to students that to compute the marginal revenue that results from selling 10,000 doses rather than 9,000 doses, they should first find the difference between the total revenues for the two outputs. *($1,000)* Then have them divide that figure by the difference in the quantities *(1,000)*. The marginal revenue at a price of $10 per unit is $1.

Answer to . . .

Building Key Concepts When economies of scale do not exist, increasing production beyond a certain point becomes costly. Other firms may enter the industry and produce additional units profitably.

Differentiated Instruction L3

This section contains an extended discussion of how one monopoly, public water, is formed. Ask students to consider another monopoly that occurs in their own community. *(Students may suggest public sewers, public electricity, freight railroads, or mass transit.)* Then ask them to write a paragraph explaining why a monopoly occurs in this sector of the marketplace.

Background

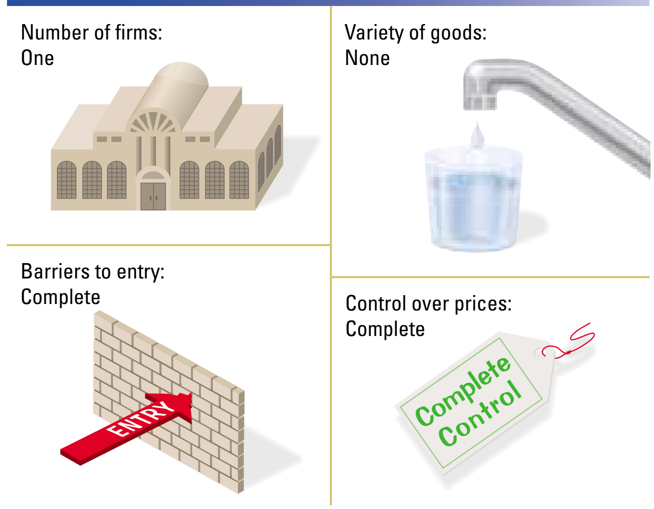
Interdisciplinary

Sometimes the government is able to prevent monopolies from occurring through changes in technology. For example, in late 1999, telephone companies such as AT&T were buying large cable networks to gain access to the growing high-speed Internet access, or broadband, market. This tactic could have given those telephone companies a natural monopoly over broadband by forcing consumers to choose the owners of the cable networks as their Internet service providers (ISPs). Although the federal government was wary of forcing cable companies to share their networks, many major cities—such as Portland, Oregon—have declared that the cable companies must share their networks with other ISPs, such as America Online, Inc.

Answer to . . .

Building Key Concepts Competition in the area of public water would create inefficiency.

***Figure 7.4* Monopoly**



In a monopoly, one company controls the market.
Markets and Prices **Why is public water a monopoly?**

However, once the dam is built, the plant can produce energy at a very low additional cost simply by letting water flow through the dam. The average cost of the first unit of electricity produced is very high because the cost of the dam is so high. As output increases, the fixed costs of the dam can be spread over more units of electricity, so the average cost drops. In a market with economies of scale, bigger is better. An industry that enjoys economies of scale can easily become a natural monopoly.

natural monopoly *a market that runs most efficiently when one large firm supplies all of the output*

Natural Monopolies

A **natural monopoly** is a market that runs most efficiently when one large firm provides all of the output. If a second firm enters the market, competition will drive down the market price charged to customers and decrease the quantity each firm can sell. One or both of the firms will not be able to cover their costs and will go out of business.

Public water provides a good example of a natural monopoly. In a competitive market, different water companies would dig reservoirs and set up overlapping networks of pipes and pumping stations to deliver water to the same town. Companies would use more land and water than necessary. Each company would have to pay for all of the unneeded pipes and would serve customers no better than a single network.

In cases like this, the government often steps in to allow just one firm in each geographic area to provide these necessary services. The government action ensures that we don't waste resources building additional plants when only one is needed. In return for monopoly status, a firm with a natural monopoly agrees to let government control the prices it can charge and what services it must provide.

Technology and Change

Sometimes the development of a new technology can destroy a natural monopoly. A new innovation can cut fixed costs and make small companies as efficient as one large firm.

▶ Before cellular phones became popular, telephone service was a natural monopoly because no one wanted to build more than one network of wires.

Block Scheduling Strategies

Consider these suggestions to take advantage of extended class time:

- Refer students to the map on p. 160. Point out that the cost of an expansion football team has skyrocketed. Have students research the cost of buying an NFL franchise over the last 25 years and graph their findings. Hold a discussion about these costs and the monopolistic management of the league.
- Have students work in pairs to complete the first activity on p. 163. Then have the pairs create similar examples and present them to the class as problems to be solved.
- Organize students into groups of three or four. Assign each group a different industry, and ask group members to gather production and cost data about that industry. Then have groups graph their data.

When telephone calls were carried by thick copper wires, local telephone service was considered a natural monopoly. No one wanted to build more than one network of wires to connect thousands of homes and businesses. In the 1980s and 1990s, consumers began using cellular phones, which were portable and could carry phone calls via radio waves rather than through wires. Cellular technology reduced the barriers to entry in the local telephone market. Now that cellular phone companies can link to thousands or millions of customers with a few, well-placed towers, they don't need to invest in an expensive infrastructure of cables and telephone poles. Cellular phone companies are becoming as efficient as traditional wire-based phone services.

▲ **A national park can give one company a franchise for, or monopoly over, food service within the park.**

Government Monopolies

In the case of a natural monopoly, the government allows the monopoly to form and then regulates it. In other cases, however, government actions themselves can create barriers to entry in markets and thereby create monopolies. A **government monopoly** is a monopoly created by the government.

Technological Monopolies

One way that the government can give a company monopoly power is by issuing a **patent.** A patent gives a company exclusive rights to sell a new good or service for a specific period of time. Suppose that Leland Pharmaceuticals developed a new asthma medication called BreatheDeep that helped people with asthma develop stronger lungs. If Leland's researchers could prove to the government that they had invented BreatheDeep, the Food and Drug Administration would grant Leland a patent. This patent would give Leland the exclusive right to sell BreatheDeep for twenty years.

Why would the government want to give a company monopoly power? Patents guarantee that companies can profit from their own research without competition. For this reason, patents encourage firms to research and develop new products that benefit society as a whole, even though the research and development costs may be very high. The market power that comes with the patent allows firms to set prices that maximize their opportunity to make a profit.

Franchises and Licenses

A **franchise** is a contract issued by a local authority that gives a single firm the right to sell its goods within an exclusive market. For example, the National Park Service picks a single firm to sell food and other goods at national parks, such as Yellowstone, Yosemite, and the Everglades. Your school may have contracted with one soft-drink company to install and stock vending machines. The franchise may include a condition that no other soft drinks will be sold in the building. Governments, parks, and schools use franchises to keep small markets under control.

On a larger scale, governments can issue a **license** granting firms the right to operate a business. Examples of scarce resources that require licensing include radio and television broadcast frequencies

government monopoly *a monopoly created by the government*

patent *a license that gives the inventor of a new product the exclusive right to sell it for a certain period of time*

franchise *the right to sell a good or service within an exclusive market*

license *a government-issued right to operate a business*

FAST FACT

Many villages in India and Bangladesh have never had phone service, even though most of the population lives in the countryside. Stretching a cable to every village was too expensive and inefficient, even for a ***natural monopoly.*** *Using a cellular network, Grameen Telecom now plans to bring pay phones to 68,000 villages in Bangladesh and serve 100 million new customers.*

Differentiated Instruction L3

(Reteaching) Have students work with partners to read the information under the heading "Government Monopolies." After they have read the material, ask partners to explain to each other the way in which these monopolies are formed. Then have students show their understanding of the material by creating a captioned poster or a graphic that illustrates the ways in which the government extends market power.

Differentiated Instruction L2

Have students divide a piece of paper into two columns. Ask them to describe a natural monopoly in one column. In the other column, have them describe the different kinds of government monopolies. Then have them write a sentence or two summarizing the differences between the two. ELL

Background

Economics in History

The word *franchise* comes from the Old French word *franc,* which meant "free." During the Middle Ages, a franchise was a right or a privilege. The lord who owned a piece of land would grant private individuals certain rights. These might include the right to hold markets or fairs, to operate ferries, or to conduct other commercial activities.

In the United States during the latter part of the 1800s, franchises were granted for the provision of such services as electricity and water. Eventually public utility commissions took over these tasks, and by the 1950s franchises were becoming a popular form of private business organization. Restaurants, convenience stores, printing shops, and dry-cleaning shops are popular types of franchises today.

Preparing for Standardized Tests

Have students read the section titled "Government Monopolies" and then answer the question below.

According to the text, which of the following might the government use to encourage firms to research and develop new products?

A licenses to control specific resources
B patents for a specific length of time
C franchises to sell goods
D restrictions on the number of firms

Differentiated Instruction L3

Have students study the map on this page. Ask them to use the information in the map along with their own knowledge to explain how a monopolistic organization, in this case the National Football League, may control output or price in an industry.

Differentiated Instruction L4

You may wish to have students add the following to their portfolios. Have them use the information in the section as well as other resources to find more information about monopolies. Then have them write a position paper on the following question: Are monopolies harmful to consumers? Students' papers should include examples to support their positions. **GT**

Economics Assessment Rubric
Economics Assessment Rubrics folder, pp. 22–23 provides sample evaluation materials for a position paper.

and land. The Federal Communications Commission issues licenses for individual radio and television stations. Some cities select a single firm to own and manage all of their public parking lots.

Industrial Organizations

In rare cases, the government allows the companies in an industry to restrict the number of firms in a market. For example, the United States government lets Major League Baseball and other sports leagues restrict the number and location of their teams. The government allows team owners of the major professional sports leagues to choose new cities for their teams and does not charge them with violating the laws that prevent competitors from working together.

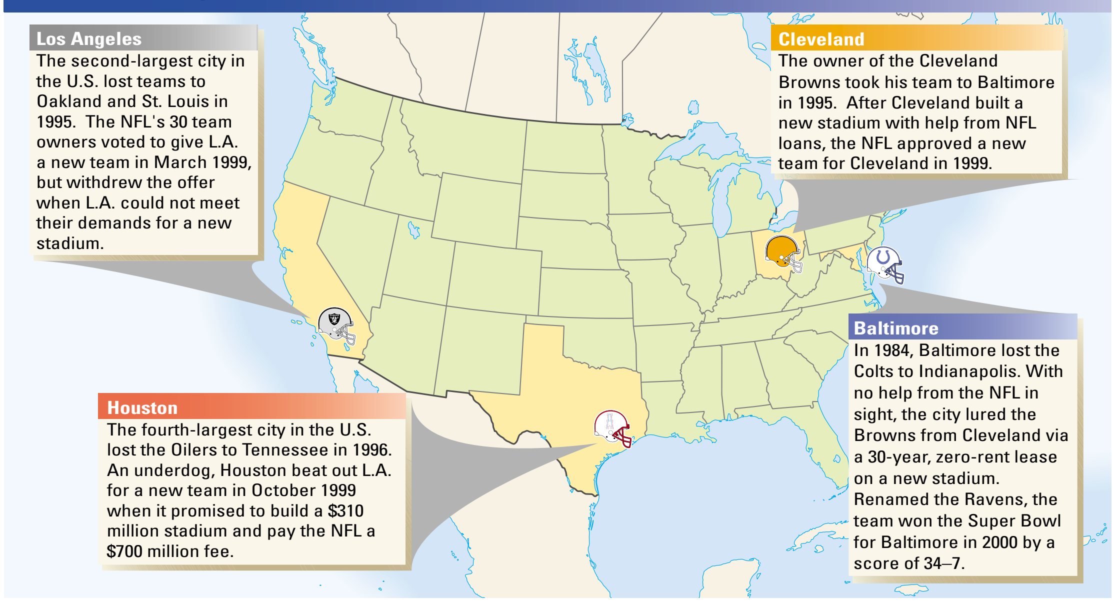
Major League Baseball has an exemption from these laws, which are known as antitrust laws, because they were originally passed to break up an illegal form of monopoly known as a trust. Other sports leagues do not have an official exemption, but the government treats them as it treats baseball. The restrictions that the leagues impose help keep team play orderly and stable by preventing other cities from starting their own major league teams and crowding the schedule.

The problem with this type of monopoly is that team owners may charge high prices for tickets. In addition, if you're a sports fan in a city without a major league team, you're out of luck.

Output Decisions

If you had severe asthma, which can be fatal, what would BreatheDeep be worth to you? You would probably want the medicine no matter how much it cost. So Leland, the company that invented and patented the drug, could charge a very high price for its new medication. In fact, they

Figure 7.5 Monopoly Decisions in the National Football League



The owners of professional football teams have a monopoly over membership in the National Football League. Cities have to apply to the NFL for a new team or pay top dollar for an existing team.
Supply and Demand **Why do team owners limit the number of teams?**

Interdisciplinary Connections: History

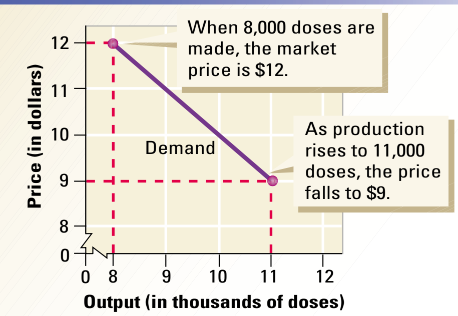
Thomas Alva Edison Thomas Alva Edison obtained 1,093 patents from the United States government—the greatest number of patents issued to a single person. In the early 1900s Edison attempted to control the U.S. motion picture industry by pooling his patents with those of other movie inventors. Together they formed the Motion Picture Patents Company, which controlled the production, distribution, and exhibition of motion pictures. However, in 1917 the Supreme Court of the United States ruled that the company was an illegal monopoly, dissolving Edison's control over the industry.

Making the Connection Have students research patents that Edison received for inventions outside the movie industry. Ask them to report how these inventions continue to affect life today.

Answer to...
Building Key Concepts Having fewer teams in the National Football League allows each team to have less competition in its region and, therefore, more fans.

Figure 7.6 Demand Schedule for BreatheDeep

Price	Weekly Demand	Total Revenue	Change in Revenue	Marginal Revenue (per dose)
$12	8,000	$96,000	—	—
$11	9,000	$99,000	$3,000	$3
$10	10,000	$100,000	$1,000	$1
$9	11,000	$99,000	–$1,000	–$1
$8	12,000	$96,000	–$3,000	–$3



By increasing output, a monopolist lowers the price of the good. Above a certain level of output, revenue also begins to decrease.

Markets and Prices **Why does revenue fall when production increases from 10,000 doses to 11,000 doses?**

could charge enough to earn well above what it cost to research and manufacture the drug. The resulting profits would give the company a reason, or incentive, for inventing the new medication in the first place. But could Leland sell as much medication as it wanted to at whatever price it chose?

Even a monopolist faces a limited choice—it can choose either output or price, but not both. The monopolist looks at the big picture and tries to maximize profits. This usually means that, compared to a perfectly competitive market for the same good, the monopolist produces fewer goods at a higher price.

The Monopolist's Dilemma

The law of demand states that buyers will demand more of a good at lower prices and less at higher prices. Figure 7.6 shows a possible demand curve for BreatheDeep, with prices in dollars on the vertical axis and doses on the horizontal axis. Many people with life-threatening asthma will pay whatever the medicine costs. But some people with milder asthma will choose a cheaper, weaker medicine if the price rises too high.

Trace the demand curve from left to right. At $12 per dose, consumers might demand 8,000 doses of BreatheDeep each week. But at $9 per dose, as many as 11,000 doses will sell. The law of demand means that when the monopolist increases the price, it will sell less, and when it lowers the price, it will sell more. Another way to interpret this graph is that if a monopolist produces more, the price of the good will fall, and if it produces less, the price will rise.

Falling Marginal Revenue

Remember from Chapter 5 that to maximize profits, a seller should set its marginal revenue, or the amount it earns from the last unit sold, equal to its marginal cost, or the extra cost from producing that unit. This same rule applies to a firm with a monopoly. The key difference is that in a perfectly competitive market, marginal revenue is always the same as price, and each firm receives the same price no matter how much it produces. Neither assumption is true in a monopoly.

To understand how this happens, consider the demand schedule for BreatheDeep in Figure 7.6. When BreatheDeep is sold at $12 a dose, consumers buy 8,000 doses, providing $96,000 in revenue. If Leland lowers the price to $11 a dose, 9,000 doses will be bought for a total revenue of $99,000. The

Differentiated Instruction L3

(Reteaching) To help students understand the example of Leland and BreatheDeep, form groups of four to five students. Explain to the members of each group that they are to create a simple illustration—a table or chart—that will display the effects of changing prices as described in "The Monopolist's Dilemma." Have groups work for about 15 minutes on their illustrations. Then have a representative from each group present the graphic to the class. This illustration will prepare them to understand the graph on the next page.

Transparency Resource Package
Economics Concepts, 7D: Monopoly Setting Output
Economics Concepts, 7E: Monopoly Setting Price

Background Note

Monopoly and Patents

The patent system is often tested in times of crisis. As a result of the anthrax poisonings of 2001, the U.S. government decided to stockpile millions of doses of drugs that provide resistance and treatment for anthrax infection. Bayer, the German multinational company that holds the patent for Cipro, agreed to sell 100 million tablets to the government at 95 cents per tablet, half the normal price. The company agreed to sell the second hundred million at 85 cents each, and the third 100 million at 75 cents each.

Answer to. . .

Building Key Concepts Although more units are being sold, all of the units are sold at a lower price than before production expanded. Therefore, the marginal revenue is a negative number.

Differentiated Instruction L3

Ask students to create a captioned version of the graph on this page. Suggest that they redraw the graph on a larger piece of paper and then use material from the textbook to write paragraphs that explain the significance of the axes, curves, and points on the graph.

Simulations and Data Graphing CD-ROM offers data graphing tools so that students can practice creating and interpreting line graphs.

Math Practice Activity
Math Practice folder, p. 6, "Maximizing Profit," gives students additional practice in calculating total revenue and marginal revenue to maximize profits.

sale of 1,000 more doses brought Leland $3,000 in new revenue.

In Chapter 5, you read that marginal revenue in most markets is equal to price. In this monopoly, the marginal revenue at a market price of $11 is roughly $3 a dose, far below the price. This is because the lower market price affects both the 1,000 new doses sold and the 8,000 doses people buy for $11 each instead of $12.

Now suppose that Leland lowers the price of BreatheDeep from $11 to $10 a dose. 10,000 doses will be bought, giving a total revenue of $100,000. This time, the sale of 1,000 more doses brought only $1,000 in additional revenue. $10,000 in revenue from 1,000 new sales barely exceeds the $9,000 fall in revenue from the 9,000 doses which are sold for $10, not $11. The market price is $10 a dose, but the marginal revenue has fallen to a mere $1 for each dose of BreatheDeep sold.

As you've seen, when a firm has some control over price—and can cut the price to sell more—marginal revenue is *less* than price. In contrast, in a perfectly competitive market, the price would not drop at all as output increased, so marginal revenue would remain the same as price. The firm's total revenue would increase at a steady rate with production.

The table in Figure 7.6 lists marginal revenues for several different prices. Note that marginal revenue actually becomes negative when the quantity demanded is greater than 10,000 doses a week.

Setting a Price

Leland will choose a level of output that yields the highest profits. As you read in Chapter 6, this is the point at which marginal revenue is equal to marginal cost.

In Figure 7.6 we have plotted the demand for BreatheDeep at market prices of $8, $9, $10, $11, and $12 a dose. According to Figure 7.6, output at these prices will be 12,000, 11,000, 10,000, 9,000, and 8,000 doses, respectively. These points form the market demand curve for BreatheDeep shown in purple.

Then, based on this data, we plotted Leland's marginal revenue at these levels of output. These points form the marginal revenue curve shown in blue in Figure 7.7. The marginal revenue curve is at the bottom of the graph because a monopolist's marginal revenue is lower than the market price.

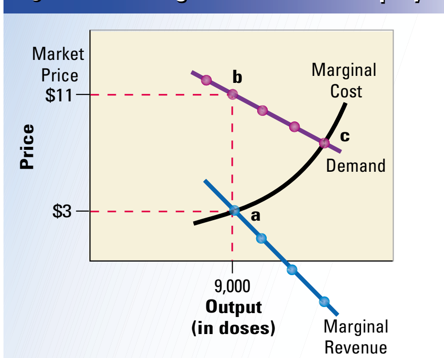
Marginal cost equals marginal revenue at point a in Figure 7.7. This is the most profitable level of output. The monopolist produces 9,000 units, the quantity at which marginal revenue and marginal cost are both $3. According to the market demand curve, the market price is $11 when 9,000 units are sold (point b). Therefore, the monopolist will set the price of each dose at $11 or set production at 9,000 units.

Figure 7.7 also shows how price and output would be different if dozens of firms sold BreatheDeep and the market were perfectly competitive. In a perfectly competitive market, marginal revenue is always equal to market price, so the marginal revenue curve would be the same as the purple demand curve. Firms will set output where marginal revenue is equal to marginal cost, shown at point c. As you can see, a perfectly competitive market for BreatheDeep would have more units sold *and* a lower market price than a monopoly.

Profits

How much profit does a monopolist earn? The cost of producing 9,000 doses is $3 per

Figure 7.7 Setting a Price in a Monopoly



BUILDING KEY CONCEPTS

A monopolist sets output at a point (a) where marginal revenue is equal to marginal cost.

Markets and Prices
How does this affect output and price compared to a perfectly competitive market?

Answer to...

Building Key Concepts A monopolist's marginal revenue is lower than the market price, so output must be set at the point where marginal cost equals marginal revenue. In a perfectly competitive market, marginal revenue remains the same as price. Under monopoly, output will be lower and price higher than they would be under perfect competition.

Preparing for Standardized Tests

Have students study Figure 7.7 and then answer the question below.

Which of the following would be an accurate description of Point a on this graph?

A the point at which marginal revenue exceeds marginal cost
B the point at which demand exceeds supply
C the point at which marginal revenue equals marginal cost
D the point at which supply exceeds demand

▲ **Price discrimination can take the form of discounts for senior citizens, children, and students.**

dose. Each dose is sold for $11. The monopolist will earn $8 of profit per dose. Total profit is $72,000, or $8 per dose for 9,000 doses.

Price Discrimination

The previous example assumed that the monopolist must charge the same price to all consumers. But in some cases, the monopolist may be able to divide consumers into two or more groups and charge a different price to each group. This practice is known as **price discrimination.**

Price discrimination is based on the idea that each customer has his or her own maximum price he or she will pay for a good. If a monopolist sets the good's price at the highest maximum price of all the buyers in the market, the monopolist will only sell to the one customer willing to pay that much. If the monopolist sets a low price, the monopolist will gain a lot of customers, but the monopolist will lose the profits it could have made from the customers who bought at the low price but were willing to pay more.

Although price discrimination is a feature of monopoly, it can be practiced by any company with **market power**. Market power is the ability to control prices and total market output. As you will read in the next section, many companies have some market power without having a true monopoly. Market power and price discrimination may be found in any market structure except for perfect competition.

Targeted Discounts

In the monopolist's ideal world, the firm could charge each customer the maximum that he or she is willing to pay, and no less. However, this is impractical, so companies divide consumers into large groups and design pricing policies for each group. One common form of price discrimination identifies some customers who are not willing to pay the regular price and offers those customers a discount. Price discrimination can also mean that a company finds the customers who need the good the most, and charges them more for that good. Here are some examples of price discrimination.

1. *Discounted airline fares* Airlines offer discounts to travelers who buy tickets several weeks in advance or are willing to spend a Saturday night at their destinations. Business travelers would prefer not to stay over on a Saturday night, but these tickets are appealing to vacationers who wouldn't otherwise pay to fly and don't mind the restrictions.
2. *Manufacturers' rebate offers* At times, manufacturers of refrigerators, cars, televisions, and other items will refund a small part of the purchase price to buyers who fill out a form and mail it back. People who take the time to fulfill the rebate requirements are likely more

price discrimination *division of customers into groups based on how much they will pay for a good*

market power *the ability of a company to change prices and output like a monopolist*

Background

Global Connections

Price discrimination on an international scale is known as *dumping.* When this occurs, a firm charges a lower price in a foreign market than it does in its home country. Sometimes the price is even lower than the actual production cost.

Why would a firm engage in dumping? Usually the firm has a monopoly in its own home market but faces competition in a foreign market. The firm is using its market power at home to discriminate against consumers. Sometimes dumping is an attempt to drive rival firms out of business in the foreign market. For this reason dumping is illegal under international trade agreements.

Differentiated Instruction L4

Provide students with the following scenarios:

- Students receive discounts on movie theater tickets when they show their student identification.
- Consumers pay much more for fruit early in the harvest season than they do in the middle of the harvest season.

Ask students if these situations are examples of price discrimination. Have them provide reasons for their answers. *(The first is an example of price discrimination; the second is not, because the price reflects the forces of supply and demand in a perfectly competitive market.)* GT

Differentiated Instruction L3

(Enrichment) Ask students to compare how supply, demand, and price operate in perfectly competitive markets and in monopolies. Have them create graphs or tables to display their comparisons.

Preparing for Standardized Tests

Have students read the section titled "Targeted Discounts" and then answer the question below.

According to the text, why do companies offer targeted discounts?

A They offer discounts to appeal to all of their customers.
B They offer discounts to allow all people to enjoy luxuries.
C They offer discounts to get people to buy products they don't need.
D They offer discounts to entice people who might not normally purchase their goods or services.

GTE Guide to the Essentials
Chapter 7, Section 2, p. 29 provides support for students who need additional review of the section content. Spanish support is available in the Spanish edition of the guide on p. 29.

Quiz Unit 2 folder, p. 38 includes questions to check students' understanding of Section 2 content.

Presentation Pro CD-ROM
Quiz provides multiple-choice questions to check students' understanding of Section 2 content.

Answers to . . .

Section 2 Assessment

1. A company with market power can control prices and output.
2. Natural monopolies operate at a lower cost to both consumers and producers, so they are generally allowed because they are the most efficient source of that good or service.
3. Students should list three of the following: discounted airline fares, manufacturer's rebate offers, senior citizen or student discounts, and kids fly or stay free promotions.
4. Sample answer: When economies of scale exist, a firm's start-up costs are high, but its average costs fall for each unit it produces, even at a level of output high enough to supply the entire market.
5. Answers will vary but should show an understanding of price discrimination. Students may list any of the types listed in the text on pp. 163–164 or others, such as kids eat free offers in restaurants.
6. As a supporting reason, students may say that this would allow the government to exercise close control of the market for meats in the town. As a reason not to grant the request, students may say that competition among several butcher shops would provide greater choice and higher quality.

price-conscious than those who don't, and may be unwilling to pay full price.

3. *Senior citizen or student discounts* Many senior citizens or students have lower incomes than people who work full time. Zoos, theaters, and restaurants often offer discounts to senior citizens and students because they are unlikely to be able to pay full price for what some consider luxuries.
4. *Children fly or stay free promotions* Families with young children spend more of their income on food, clothing, and school expenses. As a result, they have less to spend on vacations. Once again, firms would rather have their business and earn lower profits than earn no profits at all, so they offer discounts for families with children.

Limits of Price Discrimination

For price discrimination to work, a market must meet three conditions. Firms that use price discrimination must have some market power, customers must be divided into distinct groups, and buyers must not be in a position in which they can easily resell the good or service.

1. *Some market power* Price-discriminating firms must have some control over prices. For this reason, price discrimination is rare in highly competitive markets.
2. *Distinct customer groups* The price-discriminating firm must be able to divide customers into distinct groups based on their sensitivity to price. In other words, monopolists must be able to guess the demand curves of different groups, one of which is more elastic, or price-sensitive, than the others.
3. *Difficult resale* If one set of customers could buy the product at the lower price and then resell the product for a profit, the firm could not enforce its price discrimination. Because consumer goods like shoes, groceries, and clothes are easily resold, price discrimination works best in marketing services that are consumed on the spot. Examples include theme park admissions and restaurant meals. Airlines can offer senior discounts because the company can ask for identification and proof of age before letting the customer board.

Although most forms of price discrimination are perfectly legal, sometimes firms use price discrimination to drive other firms out of business. This illegal form of the practice is called predatory pricing, and you will read more about it in Section 4.

Section 2 Assessment

Progress Monitoring *Online*
For: Self-quiz with vocabulary practice
Web Code: mna-2076

Key Terms and Main Ideas

1. What can a firm with **market power** do?
2. Why does government usually approve of **natural monopolies?**
3. What are three different forms of **price discrimination?**
4. Define the term ***economies of scale*** in your own words.

Applying Economic Concepts

5. ***Try This*** Look through a recent newspaper for advertisements and coupons. List five examples of price discrimination.
6. ***Decision Making*** Suppose that you are the mayor of your town, and a local butcher asks you to **franchise** his shop as the only approved butcher shop in town. List a reason for and a reason against granting his request.
7. ***Critical Thinking*** Do you believe that public education is a natural monopoly? Why or why not?

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7. Student responses should demonstrate an understanding of the concept of natural monopoly. Most students will probably say that public education is a natural monopoly because state boards determine what will be offered. Students who disagree may point to the school choice movement and the way it affects the natural monopoly.

Progress Monitoring *Online*
For additional assessment, have students access Progress Monitoring Online at **Web Code:** mna-2076

Go Online PHSchool.com Typing in the Web Code when prompted will bring students directly to detailed instructions for this activity.