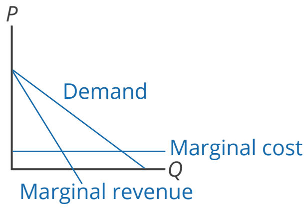
Chapter 11 Exercises

Self-Check Questions

1. Suppose that, due to a successful advertising campaign, a monopolistic competitor experiences an increase in demand for its product. How will that affect the price it charges and the quantity it supplies?

2. Continuing with the scenario outlined in Question 1, in the long run, the positive economic profits earned by the monopolistic competitor will attract a response either from existing firms in the industry or firms outside. As those firms capture the original firm's profit, what will happen to the original firm's profit-maximizing price and output levels?

3. Consider the curve shown in the following graph, which shows the market demand, marginal cost, and marginal revenue curves for firms in an oligopolistic industry.



   a. Suppose the firms collude to form a cartel. What price will the cartel charge? What quantity will the cartel supply? How much profit will the cartel earn?

   b. Suppose now that the cartel breaks up, and the oligopolistic firms compete as vigorously as possible by cutting price and increasing sales. What will the industry quantity and price be? What will the collective profits be of all firms in the industry?

   c. Compare the equilibrium price, quantity, and profit for the cartel and cutthroat competition outcomes.

4. Sometimes, oligopolies in the same industry are very different in size. Suppose we have a duopoly where one firm (Firm A) is large and the other firm (Firm B) is small, as shown in the prisoner's dilemma in the following table.

	Firm B Colludes with Firm A	Firm B Cheats by Selling More Output
Firm A Colludes with Firm B	A gets $1,000, B gets $100	A gets $800, B gets $200
Firm A Cheats by Selling More Output	A gets $1,050, B gets $50	A gets $500, B gets $20

   Assuming that the payoffs are known to both firms, what is the likely outcome in this case?

Review Questions

5. What is the relationship between product differentiation and monopolistic competition?

6. How is the perceived demand curve for a monopolistically competitive firm different from the perceived demand curve for a monopoly or a perfectly competitive firm?

7. How does a monopolistic competitor choose its profit-maximizing quantity of output and price?

8. How can a monopolistic competitor tell whether the price it is charging will cause the firm to earn profits or experience losses?

9. If the firms in a monopolistically competitive market are earning economic profits or losses in the short run, would you expect them to continue doing so in the long run? Why?

10. Is a monopolistically competitive firm productively efficient? Is it allocatively efficient? Why or why not?

11. Will the firms in an oligopoly act more like a monopoly or more like competitors? Briefly explain.

12. Does each individual in a prisoner's dilemma benefit more from cooperation or from pursuing self-interest? Explain briefly.

13. What stops oligopolists from acting together as a monopolist and earning the highest possible level of profits?

Critical Thinking Questions

14. Aside from advertising, how can monopolistically competitive firms increase demand for their products?

15. Make a case for why monopolistically competitive industries never reach long-run equilibrium.

16. Would you rather have efficiency or variety? One opportunity cost of variety is that each product costs more per unit than if there were only one kind of product of a given type, like shoes. Perhaps a better question is, "What is the right amount of variety? Can there be too many varieties of shoes, for example?"

17. Would you expect the kinked demand curve to be more extreme (like a right angle) or less extreme (like a normal demand curve) if each firm in the cartel produces a near-identical product, like OPEC and petroleum? What if each firm produces a somewhat different product? Explain your reasoning.

18. When OPEC raised the price of oil dramatically in the mid-1970s, experts said it was unlikely that the cartel could stay together over the long term—the incentives for individual members to cheat would become too strong. More than forty years later, OPEC still exists. Why do you think OPEC has been able to beat the odds and continue to collude? (*Hint*: you may wish to consider noneconomic reasons.)

Problems

19. Andrea's Day Spa begins offering a relaxing aromatherapy treatment. The firm asks you how much to charge to maximize profits. The demand curve for the treatments is given by the first two columns in the following table; its total costs are given in the third column. For each level of output, calculate total revenue, marginal revenue, average cost, and marginal cost. What is the profit-maximizing level of output for the treatments, and how much will the firm earn in profits?

Price	Quantity	Total Cost
$25.00	0	$130
$24.00	10	$275
$23.00	20	$435
$22.50	30	$610
$22.00	40	$800
$21.60	50	$1,005
$21.20	60	$1,225

20. Mary and Raj are the only two farmers who provide organically grown corn to a local grocery store. They know that if they cooperate and produce less corn, they could raise the price of the corn. If they work independently, they will each earn \$100. If they decide to work together and both lower their output, they can each earn \$150. If one person lowers output and the other does not, the person who lowers output will earn \$0, and the other person will capture the entire market and earn \$200. The following table represents the choices available to Mary and Raj. What is the best choice for Raj if he is sure that Mary will cooperate? If Mary thinks Raj will cheat, what should Mary do and why? What is the prisoner's dilemma result? What is the preferred choice if they could ensure cooperation? A = work independently; B = cooperate and lower output. (Each results entry lists Raj's earnings first and Mary's earnings second.)

		Mary	
		A	**B**
Raj	**A**	(\$100, \$100)	(\$200, \$0)
	B	(\$0, \$200)	(\$150, \$150)

21. Jane and Bill are apprehended for a bank robbery. They are taken into separate rooms and questioned by the police about their involvement in the crime. The police tell each that if they confess and turn the other person in, they will receive a lighter sentence. If they both confess, they will both be sentenced to 30 years. If neither confesses, they will each receive a 20-year sentence. If only one confesses, the confessor will receive 15 years, and the one who stayed silent will receive 35 years. The following table represents the choices available to Jane and Bill. If Jane trusts Bill to stay silent, what should she do? If Jane thinks that Bill will confess, what should she do? Does Jane have a dominant strategy? Does Bill have a dominant strategy? A = confess; B = stay silent. (Each results entry lists Bill's sentence first [in years] and Jane's sentence second.)

		Jane	
		A	**B**
Bill	**A**	(30, 30)	(15, 35)
	B	(35, 15)	(20, 20)