

KEY CONCEPTS

average revenue, p. 290
marginal revenue, p. 290

sunk cost, p. 294
normal profit, p. 302

abnormal profit, p. 302

QUESTIONS FOR REVIEW

1. What is meant by a competitive firm?
2. Draw the cost curves for a typical firm. For a given price, explain how the firm chooses the level of output that maximizes profit.
3. Under what conditions will a firm shut down temporarily? Explain.
4. Under what conditions will a firm exit a market? Explain.
5. Does a firm's price equal marginal cost in the short run, in the long run, or both? Explain.
6. Does a firm's price equal the minimum of average total cost in the short run, in the long run, or both? Explain.
7. Are market supply curves typically more elastic in the short run or in the long run? Explain.

PROBLEMS AND APPLICATIONS

1. What are the characteristics of a competitive market? Which of the following drinks do you think is best described by these characteristics? Why aren't the others?
 - a. tap water
 - b. bottled water
 - c. cola
 - d. beer.
2. Your flatmate's long hours in the chemistry lab finally paid off – she discovered a secret formula that lets people do an hour's worth of studying in 5 minutes. So far, she's sold 200 doses, and faces the following average total cost schedule:

Q	Average total cost
199	€199
200	200
201	201

If a new customer offers to pay your flatmate €300 for one dose, should she make one more? Explain.

3. The liquorice industry is competitive. Each firm produces 2 million liquorice bootlaces per year. The bootlaces have an average total cost of €0.20 each, and they sell for €0.30.
 - a. What is the marginal cost of a liquorice bootlace?

- b. Is this industry in long-run equilibrium? Why or why not?
4. You go out to the best restaurant in town and order a steak tartar dinner for €40. After eating half of the steak tartar, you realize that you are quite full. Your date wants you to finish your dinner, because you can't take it home and because 'you've already paid for it.' What should you do? Relate your answer to the material in this chapter.
5. Alejandro's lawn-mowing service is a profit-maximizing, competitive firm. Alejandro mows lawns for €27 each. His total cost each day is €280, of which €30 is a fixed cost. He mows 10 lawns a day. What can you say about Alejandro's short-run decision regarding shutdown and his long-run decision regarding exit?
6. Consider total cost and total revenue given in the table below:

Quantity	0	1	2	3	4	5	6	7
Total cost	€8	19	10	11	13	19	27	37
Total revenue	0	8	16	24	32	40	48	56

- a. Calculate profit for each quantity. How much should the firm produce to maximize profit?
- b. Calculate marginal revenue and marginal cost for each quantity. Graph them. (Hint: put the points