SOLUTIONS TO TEXT PROBLEMS:

Quick Quizzes

1. The three key attributes of monopolistic competition are: (1) there are many sellers; (2) each firm produces a slightly different product; and (3) firms can enter or exit the market freely.

   Figure 1 shows the long-run equilibrium in a monopolistically competitive market. This equilibrium differs from that in a perfectly competitive market because price exceeds marginal cost and the firm doesn't produce at the minimum point of average total cost.

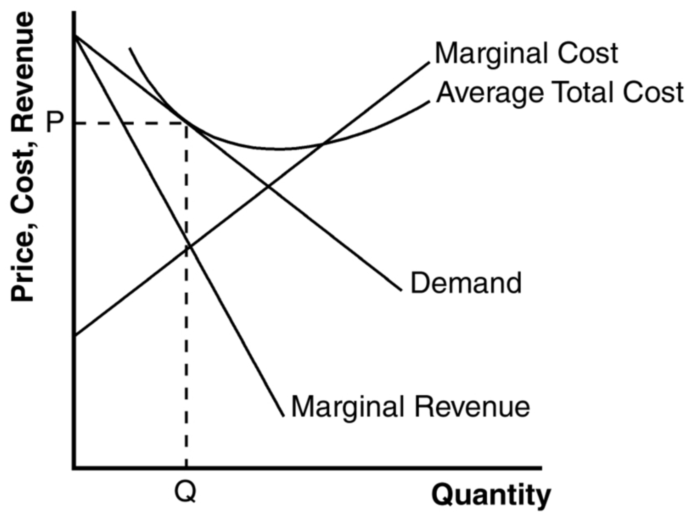

Figure 1

2. Advertising may make markets less competitive because it manipulates people's tastes rather than being informative. Advertising gives consumers the perception that there is a greater difference between two products than really exists. That makes the demand curve for a product more inelastic, so the firms then charge greater markups over marginal cost. However, some advertising could make markets more competitive, since advertising is just one more method of competition between products and since it sometimes provides useful information to consumers, allowing them to more easily take advantage of price differences. In addition, expensive advertising can be a signal of quality. Advertising also allows entry, since advertising can be used to inform consumers about a new product.

   Brand names may be beneficial because they provide information to consumers about the quality of goods. They also give firms an incentive to maintain high quality, since their reputations are important. But brand names may be criticized because they may simply differentiate products that are not really different, as in the case of drugs that are identical but the brand-name drug sells at a much higher price than the generic drug.

Questions for Review

1. The three attributes of monopolistic competition are: (1) there are many sellers; (2) each seller produces a slightly different product; and (3) firms can enter or exit the market without restriction. Monopolistic competition is like monopoly because firms face a downward-sloping demand curve, so price exceeds marginal cost. Monopolistic competition is like perfect

competition because, in the long run, price equals average total cost, as free entry and exit drive economic profit to zero.

2. In Figure 2, a firm has demand curve D_1 and marginal-revenue curve MR_1. The firm is making profits because at quantity Q_1, price (P_1) is above average total cost (ATC). Those profits induce other firms to enter the industry, causing the demand curve to shift to D_2 and the marginal-revenue curve to shift to MR_2. The result is a decline in quantity to Q_2, at which point the price (P_2) equals average total cost (ATC), so profits are now zero.

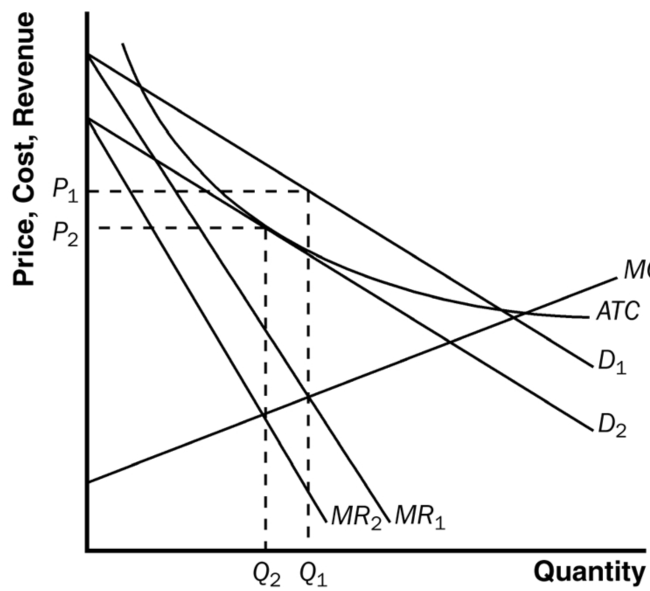

Figure 2

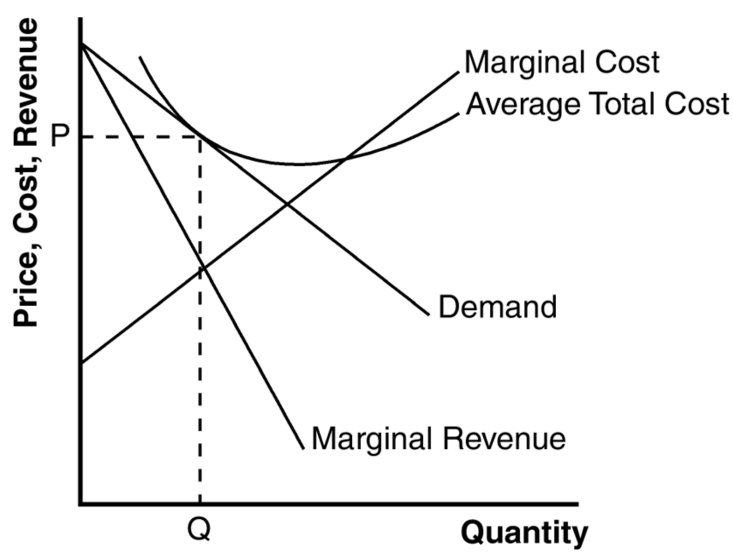

Figure 3

3. Figure 3 shows the long-run equilibrium in a monopolistically competitive market. Price equals average total cost. Price is above marginal cost.

4. Since, in equilibrium, price is above marginal cost, a monopolistic competitor produces too little output. But this is a hard problem to solve because: (1) the administrative burden of regulating the large number of monopolistically competitive firms would be high; and (2) the firms are earning zero economic profits, so forcing them to price at marginal cost means that firms would lose money unless the government subsidized them.

5. Advertising might reduce economic well-being because it is costly, manipulates people's tastes, and impedes competition by making products appear more different than they really are. But advertising might increase economic well-being by providing useful information to consumers and fostering competition.

6. Advertising with no apparent informational content might convey information to consumers if it provides a signal of quality. A firm won't be willing to spend much money advertising a low-quality good, but will be willing to spend significantly more advertising a high-quality good.

7. The two benefits that might arise from the existence of brand names are: (1) brand names provide consumers information about quality when quality cannot be easily judged in advance; and (2) brand names give firms an incentive to maintain high quality to maintain the reputation of their brand names.

Problems and Applications

1. a. The market for #2 pencils is perfectly competitive since pencils by any manufacturer are identical and there are a large number of manufacturers.

   b. The market for bottled water is monopolistically competitive because of consumers' concerns about quality. As a result, each producer has a slightly different product.

   c. The market for copper is perfectly competitive, since all copper is identical and there are a large number of producers.

   d. The market for local telephone service is monopolistic because it is a natural monopoly—it is cheaper for one firm to supply all the output.

   e. The market for peanut butter is monopolistically competitive because different brand names exist with different quality characteristics.

   f. The market for lipstick is monopolistically competitive because lipstick from different firms differs slightly, but there are a large number of firms who can enter or exit without restriction.

2. A monopolistic firm produces a product for which there are no close substitutes, but a monopolistically competitive firm produces a product that is only somewhat different from substitute goods. So the goods differ in terms of the degree to which substitutes exist.

3. Monopolistically competitive firms don't increase the quantity they produce to lower the average cost of production because doing so would require them to lower their price. The loss in revenue from the lower price outweighs the benefits of the lower cost of production.

4. a. Figure 4 illustrates the market for Sparkle toothpaste in long-run equilibrium. The profit-maximizing level of output is Q_M and the price is P_M.

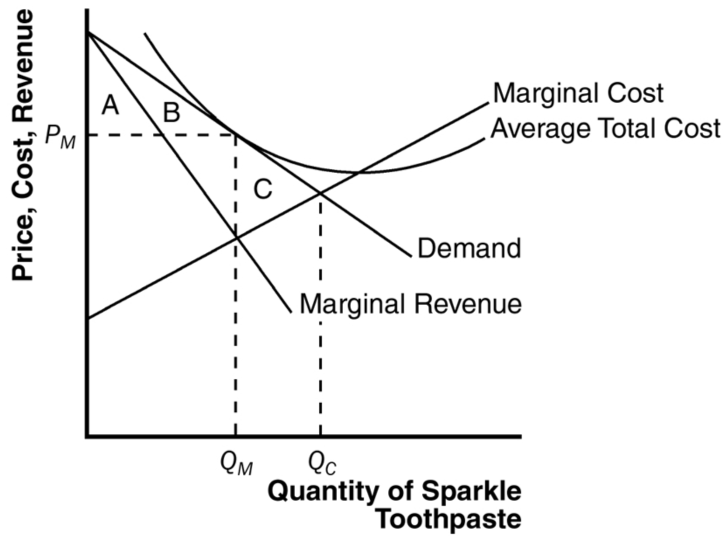

Figure 4

b. Sparkle's profit is zero, since at quantity Q_M, price equals average total cost.

c. The consumer surplus from the purchase of Sparkle toothpaste is area A + B. The efficient level of output occurs where the demand curve intersects the marginal-cost curve, at Q_C. So the deadweight loss is area C, the area above marginal cost and below demand, from Q_M to Q_C.

d. If the government forced Sparkle to produce the efficient level of output, the firm would lose money because average cost would exceed price, so the firm would shut down. If that happened, Sparkle's customers would earn no consumer surplus.

5. Since each firm in a monopolistically competitive market produces a product that is slightly different from other products, a monopolistically competitive market has a large number of products. But whether that number is optimal or not depends on two key externalities: the product-variety externality and the business-stealing externality. The product-variety externality is a positive externality to consumers from the introduction of a new product. The business-stealing externality is a negative externality because other firms lose customers and profits from the addition of a new product. Since the entrant doesn't take these externalities into account in deciding whether or not to enter the market, it isn't clear whether the actual number of products will be optimal, above optimal, or below optimal.

6. By sending Christmas cards to their customers, monopolistically competitive firms are advertising themselves. Since they are in a position in which price exceeds marginal cost, they would like more customers to come in, as shown in Figure 5. Since the price, P_M, exceeds marginal cost, MC_M, any additional customer who pays the existing price increases the firm's profits.

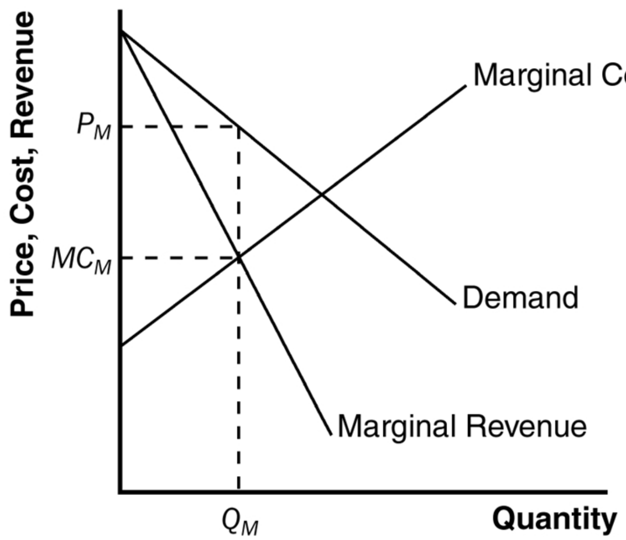

Figure 5

7. If you were thinking of entering the ice-cream business, you would want to make ice cream that is slightly different from the existing brands. By differentiating your product from others, you gain some market power.

8. Many answers are possible. The answers should explain that commercials are socially useful to the extent that they provide consumers information about the product or demonstrate from the existence of the commercial that the product is worth advertising, and thus is not of low quality. Commercials are socially wasteful to the extent that they manipulate people's tastes and try to make products seem more different than they really are.

9. a. A family-owned restaurant would be more likely to advertise than a family-owned farm because the output of the farm is sold in a perfectly competitive market, in which there is no reason to advertise, while the output of the restaurant is sold in a monopolistically competitive market.

   b. A manufacturer of cars is more likely to advertise than a manufacturer of forklifts because there is little difference between different brands of industrial products like forklifts, while there are greater perceived differences between consumer products like cars. The possible return to advertising is greater in the case of cars than in the case of forklifts.

   c. A company that invented a reliable watch is likely to advertise more than a company that invented a less reliable watch that costs the same amount to make because the company with the reliable watch will get many repeat sales over time to cover the cost of the advertising, while the company with the less reliable watch will not.

10. a. Perdue created a brand name for chicken by advertising. By doing so, he was able to differentiate his product from other chicken, gaining market power.

    b. Society gained to the extent that Perdue has a great incentive to maintain the quality of his chicken. Society lost to the extent that the market for chicken became less competitive, with the associated deadweight loss.

11. a. Figure 6 shows Tylenol's demand, marginal revenue, and marginal cost curves. Tylenol's

price is P_T, its marginal cost is MC_T, and its markup over marginal cost is P_T - MC_T.

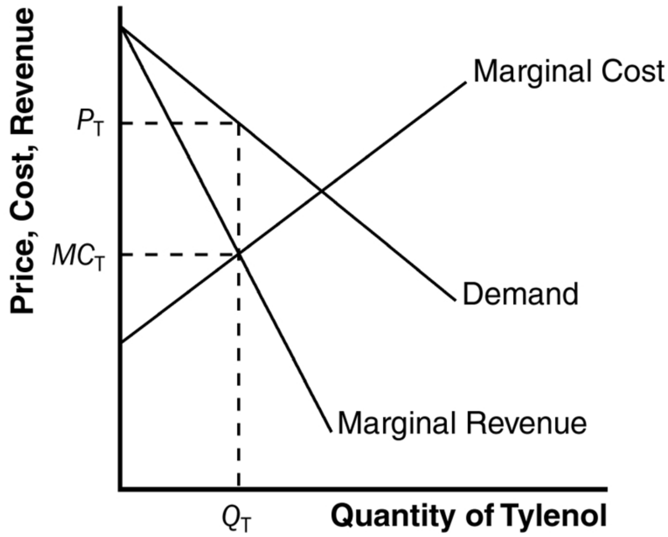

Figure 6

b. Figure 7 shows the demand, marginal revenue, and marginal cost curves for a maker of acetaminophen. The diagrams differ in that the acetaminophen maker faces a horizontal demand curve, while the maker of Tylenol faces a downward-sloping demand curve. The acetaminophen maker has no markup of price over marginal cost, while the maker of Tylenol has a positive markup, because it has some market power.

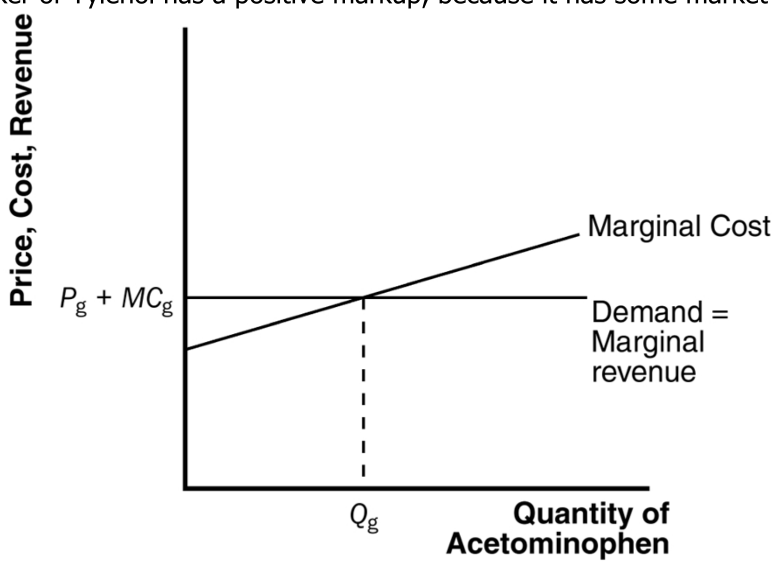

Figure 7

c. The maker of Tylenol has a bigger incentive for careful quality control, because if quality were poor, the value of its brand name would deteriorate, sales would decline, and its advertising would be worth less.