The questions below are from material in Chapters 14 and 15.

1. Under what conditions will a firm shut down temporarily? Explain.
   A firm will shut down temporarily if the revenue it would get from producing is less than the variable costs of production. This occurs if price is less than average variable cost. By shutting down the firm minimizes its losses.

2. Under what conditions will a firm exit a market? Explain.
   A firm will exit a market if the revenue it would get if it stayed in business is less than its total cost. This occurs if price is less than average total cost. A decision to exit is by definition a long-run decision, so the exit decision is implicitly based on a projection of permanent losses.

3. Does a firm’s price equal marginal cost in the short run, in the long run, or both? Explain.
   A firm's price equals marginal cost in both the short run and the long run. In both the short run and the long run, price equals marginal revenue. The firm should increase output as long as marginal revenue exceeds marginal cost, and reduce output if marginal revenue is less than marginal cost. Profits are maximized when marginal revenue equals marginal cost.

4. Does a firm’s price equal the minimum of average total cost in the short run, long run, or both? Explain.
   The firm's price equals the minimum of average total cost only in the long run. In the short run, price may be greater than average total cost, in which case the firm is making profits, or price may be less than average total cost, in which case the firm is making losses. But the situation is different in the long run. If firms are making profits, other firms will enter the industry, which will lower the price of the good. If firms are making losses, they will exit the industry, which will raise the price of the good. Entry or exit continues until firms are making neither profits nor losses. At that point, price equals average total cost.
5. State the long run equilibrium condition for a perfectly competitive industry and for a typical firm within that industry. Show this industry and firm on a graph. In what sense does long run competition promote efficiency?

Qd=Qs at Pe for the industry and P=ATC for the firm. Given that there are zero economic profits, there is no tendency for entry or exit of resources from this industry.

In the long run, resources are attracted to industries that are most profitable, which means resources are allocated to highest-valued uses. In the competition for profits, firms have an incentive to reduce production costs as much as possible, which provides an incentive to conserve scarce resources.

6. During 2005 General Motors suffered some $23 billion in losses, and Ford posted losses of $7.4 billion. Why did GM and Ford continue to operate during this period? Draw a graph illustrating a price-taker firm in this situation.

GM apparently believed these losses were temporary (they were), so GM lost less by operating than by shutting down.

Your graph should show the firm producing a quantity (q*) where MR=MC. At this quantity, the firm is sustaining losses, since price is less than ATC. But the firm is covering the costs of operating, since price is greater than AVC.

Note that we are using the model for a perfectly competitive firm, even though the auto industry is probably not perfectly competitive.

7. Assume that the gold-mining industry is competitive.

a. Illustrate the long-run equilibrium using diagrams for the gold market and for a representative gold mine.

b. Suppose that an increase in demand for jewelry induces a surge in the demand for gold. Using your diagrams from part (a), show what happens in the short run to the gold market and to the typical gold mine.
c. If the demand for gold persists over time at the level in part (b), what would happen in the market for gold over a long period of time?

The profits earned by the typical firm would signal entry of resources into the industry. Existing firms would grow and new firms would enter, causing the supply curve to shift to the right. As this happens, the price is bid down toward the level where \( P=ATC \) for the typical firm, which would restore the LR equilibrium.

8. You go out to eat at the best restaurant in town and order a lobster dinner for $40. After eating half the lobster, you realize that you are quite full. Your date wants you to finish your dinner because you can’t take it home and “you’ve already paid for it.” What should you do? What would it cost you to leave half the dinner uneaten?

Once you have ordered the dinner, you are obligated to pay for it. You can’t change the price you pay by eating more or less of your dinner. Therefore, the cost of the dinner should not influence your decision about stuffing yourself. Given the facts in this problem, it costs you nothing to leave half the dinner uneaten.

9. Read the essay at the Article Link for HW12 and answer the following questions:

a. Friedman wrote this essay in 1970. Give two examples of private businesses that promote “socially responsible” causes. (Hint: Think of recent advertising campaigns of firms that tout their “community involvement” or “social responsibility.”)

Answers will vary but it has become commonplace for firms to engage in moral preening through their advertising. Oil companies have touted their social responsibility for decades. Many cable companies tell you more about the good will of their employees than the products they sell. DuPont advertises that trainloads of corn replace tankers of oil (at a much higher cost, but they don’t mention that part). Honda had a full-page ad in the 12-1-06 Wall Street Journal proclaiming its commitment to “environmentally responsible technology.” (I guess it’s time to sell my Honda and buy a Jaguar, whose ad claims “oh, what
fun it is to drive.” I’m all for utility maximization.) Starbucks sells a “fair trade” coffee, supposedly paying a higher price to the grower. A group called IU Students in Free Enterprise held a “Fair Trade Fest” in an effort to help “economically-challenged countries.” (Who makes up these names?—I am apparently “educationally-challenged,” because I had never heard that term before.)

b. Explain how, according to Friedman, the pursuit of a socially responsible is likely to harm the customers, workers, or owners of the firm.

c. Why does Friedman argue that the pursuit of profits is the one and only social responsibility of business?

10. What are the characteristics of monopoly? What are the sources of barriers to entry enjoyed by a monopolist?

One seller
No close substitutes
Barrier to entry

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a. Is this firm a price taker (perfect competitor) or a price searcher (monopolist)? How do you know?

b. What is the profit-maximizing rate of output and what price will be charged? Explain how you determined your answers.

c. What is the profit/loss for this firm?

d. Draw the demand, marginal revenue, marginal cost, and average total cost curves on a graph.
e. Label the profit-maximizing rate of output for this firm and the corresponding price on the graph. Show the total profit/loss.

f. If this firm had the same cost structure but was a price taker in a perfectly competitive industry, what would its price-output combination be?

g. Label the welfare loss that results from the monopolist's behavior? Explain why this represents a loss to society?

12. a. Define price discrimination.

b. What conditions are necessary for a firm to practice price discrimination?

c. What is "perfect" price discrimination? What are the effects on economic efficiency? Use a graph to support your answer.