AP® Microeconomics
2011 Free-Response Questions

MICROECONOMICS

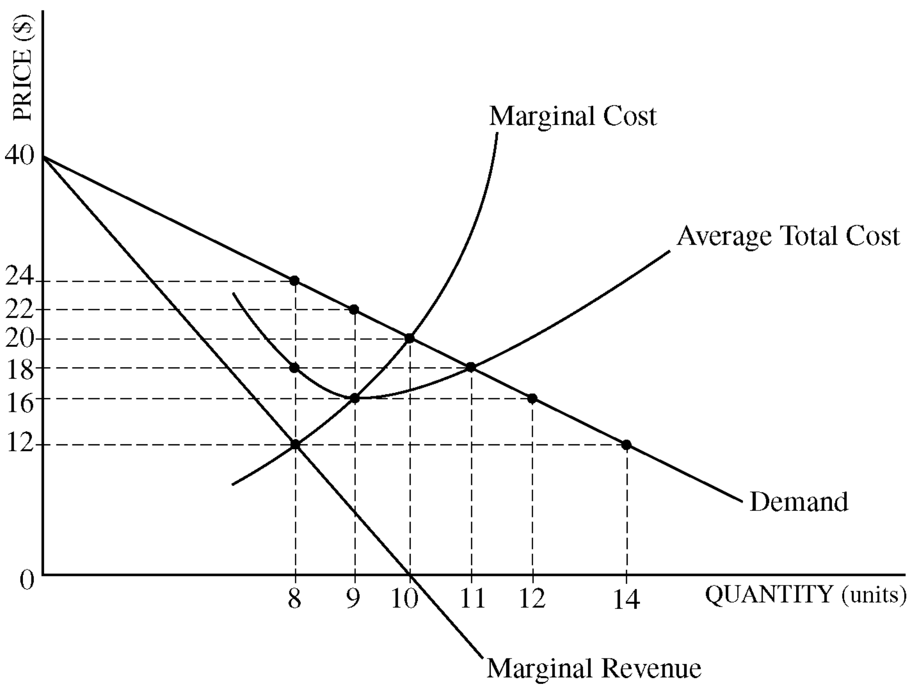
Section II

Planning time—10 minutes

Writing time—50 minutes

Directions: You have 50 minutes to answer all three of the following questions. It is suggested that you spend approximately half your time on the first question and divide the remaining time equally between the next two questions. In answering the questions, you should emphasize the line of reasoning that generated your results; it is not enough to list the results of your analysis. Include correctly labeled diagrams, if useful or required, in explaining your answers. A correctly labeled diagram must have all axes and curves clearly labeled and must show directional changes. Use a pen with black or dark blue ink.

1. A monopolist's demand, marginal revenue, and cost curves are shown in the diagram below.



(a) Assume that the monopolist wants to maximize profit. Using the labeling on the graph, indicate the monopolist's price.

(b) When the output is 8 units, what is the profit per unit?

(c) Assume that the monopolist is maximizing profit. Is allocative efficiency achieved? Explain.

(d) Between the prices of $16 and $18, is the monopolist in the elastic, inelastic, or unit elastic portion of its demand curve? Explain.

(e) Assume that regulators set an output of 11 units.

(i) Is the monopolist earning positive economic profit? Explain.

(ii) Is the monopolist earning positive accounting profit?

(f) Assume instead that regulators impose a price ceiling of $22.

(i) What is the marginal revenue for the eighth unit?

(ii) What quantity will be produced?

(g) Assume instead that the monopolist practices perfect price discrimination (also called first-degree price discrimination).

(i) What quantity will be produced?

(ii) What will be the value of the consumer surplus?

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2. Assume that the market for avocados is perfectly competitive. The typical firm is earning positive economic profit in the short-run equilibrium.

(a) Draw a correctly labeled graph for the typical firm, illustrating the short-run equilibrium and labeling the equilibrium market price and output P_E and Q_E, respectively.

(b) Assume there is an increase in the market wage rate for labor, a variable input. Show on your graph in part (a) the effect of the wage increase on the marginal cost curve in the short run.

(c) Assume that avocado producers hire workers from a perfectly competitive labor market. Draw a graph of labor supply and demand for the typical firm and label the supply curve MFC and the demand curve MRP. Assume the market wage rate increases from w_1 to w_2. Show the effect of the wage increase on the graph, labeling the initial quantity of labor hired QL_1 and the new quantity of labor hired QL_2.

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3. Assume that the market for good X is perfectly competitive and that the production of good X creates a negative externality.

(a) Draw a correctly labeled graph of the market for good X and show each of the following.

(i) The marginal private cost and marginal social cost of good X, labeled MPC and MSC, respectively

(ii) The market quantity, labeled Q_m

(iii) The allocatively efficient quantity, labeled Q_s

(iv) The area of deadweight loss, shaded completely

(b) Assume that a lump-sum tax is imposed on the producers of good X. What happens to the deadweight loss? Explain.

STOP

END OF EXAM