



AP[®] Microeconomics

2014 Free-Response Questions

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2014 AP[®] MICROECONOMICS FREE-RESPONSE QUESTIONS

MICROECONOMICS

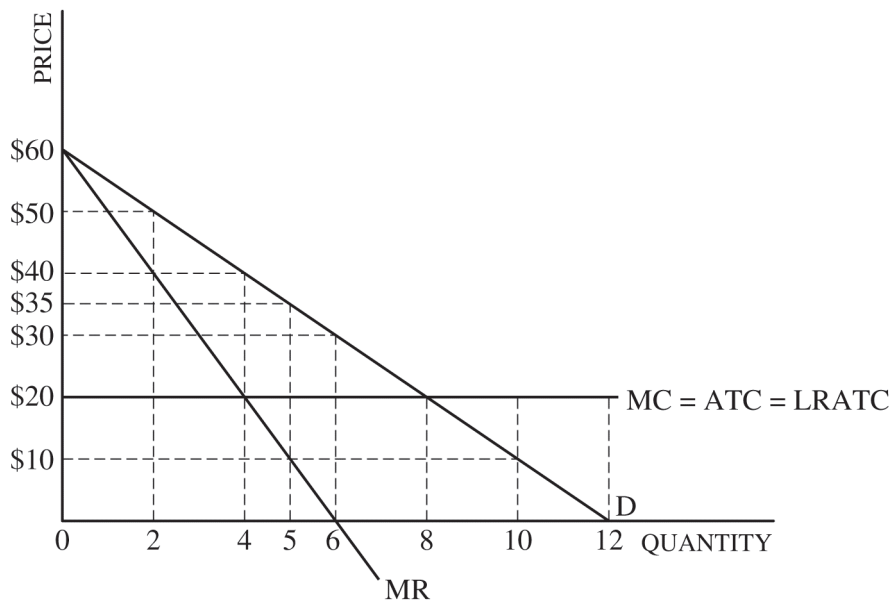
Section II

Planning time—10 minutes

Writing time—50 minutes

Directions: You have 10 minutes to read all of the questions in this booklet, to sketch graphs, to make notes, and to plan your answers. You will then 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. The graph below shows the demand curve (D), marginal revenue curve (MR), marginal cost curve (MC), average total cost curve (ATC), and long-run average total cost curve (LRATC) for a monopolist.



- (a) Using the numbers given in the graph, identify each of the following for the profit-maximizing monopolist.
- (i) The quantity produced
 - (ii) The price
 - (iii) The allocatively efficient quantity
- (b) At the profit-maximizing quantity from part (a)(i), is the monopolist experiencing economies of scale? Explain.

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- (c) Now assume that the monopolist produces 10 units. Using the numbers given in the graph, calculate each of the following. Show your work.
- (i) The monopolist's economic profit
 - (ii) The consumer surplus
 - (iii) The deadweight loss
- (d) At what quantity is demand unit elastic?
- (e) Suppose the monopolist perfectly price discriminates and chooses the quantity that maximizes profit. Determine the dollar value of each of the following.
- (i) The monopolist's profit
 - (ii) The consumer surplus
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2. Ray's Stable hires workers in a perfectly competitive factor market for unskilled labor.
- (a) Using correctly labeled side-by-side graphs for the labor market and Ray's Stable, show each of the following.
- (i) The equilibrium wage and quantity for unskilled labor, labeled W_E and Q_E , respectively
 - (ii) The wage paid by Ray's Stable and the quantity of unskilled labor hired, labeled W_R and Q_R , respectively
- (b) Is the marginal factor cost of unskilled labor for Ray's Stable greater than, less than, or equal to W_E ? Explain.
- (c) Now assume that the government imposes an effective minimum wage for unskilled labor.
- (i) Show the minimum wage on your graphs in part (a), labeled W_{MIN} .
 - (ii) On the labor market graph in part (a), show the quantity of unskilled labor supplied in the labor market as a result of the minimum wage, labeled Q_S .
 - (iii) As a result of the new minimum wage, will the marginal revenue product of the last worker hired by Ray's Stable increase, decrease, or stay the same?

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3. Assume that gasoline is sold in a competitive market in which demand is relatively inelastic and supply is relatively elastic.
- (a) Draw a correctly labeled graph of the gasoline market. On your graph show the equilibrium price and quantity of gasoline, labeled P_E and Q_E .
 - (b) Suppose the government imposes a \$2 per unit tax on the producers of gasoline. On your graph from part (a), show each of the following after the tax is imposed.
 - (i) The price paid by buyers, labeled P_B
 - (ii) The after-tax price received by sellers, labeled P_S
 - (iii) The quantity, labeled Q_T
 - (c) Using the labeling on your graph, explain how to calculate the total tax revenue collected by the government.
 - (d) Will the tax burden fall entirely on buyers, entirely on sellers, more on buyers and less on sellers, more on sellers and less on buyers, or equally on buyers and sellers? Explain.

STOP

END OF EXAM