



**AP<sup>®</sup> Microeconomics  
2004 Free-Response Questions  
Form B**

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# 2004 AP<sup>®</sup> MICROECONOMICS FREE-RESPONSE QUESTIONS (Form B)

## MICROECONOMICS

### Section II

Planning time—10 minutes

Writing time—50 minutes

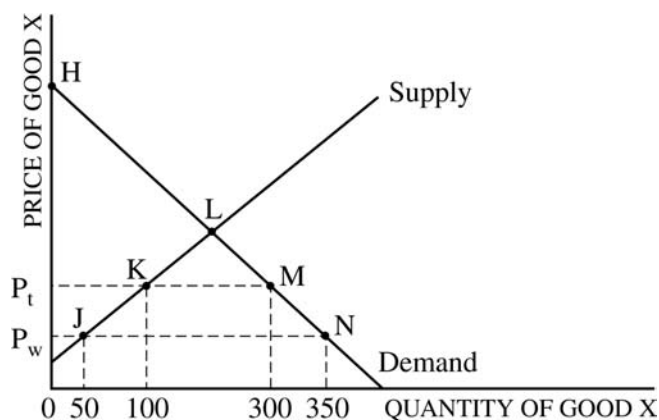
**Directions:** You have fifty minutes to answer all three of the following questions. It is suggested that you spend approximately half your time on the first question and divide the remaining time equally between the next two questions. In answering the questions, you should emphasize the line of reasoning 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.

1. Due to a new technology, Brunelle Inc. enjoys monopoly power. Brunelle does not engage in price discrimination.
  - (a) Explain why the demand curve lies above the marginal revenue curve for Brunelle.
  - (b) Assume that Brunelle is earning short-run economic profits. Using a correctly labeled graph, show the following for Brunelle.
    - (i) Profit-maximizing level of output, labeled as  $Q^*$
    - (ii) Profit-maximizing price, labeled as  $P^*$
    - (iii) Economic profits, as a shaded area
  - (c) If Brunelle wants to maximize its total revenues instead of profits, using the graph from part (b) show the following.
    - (i) Revenue-maximizing level of output, labeled as  $Q^r$
    - (ii) Revenue-maximizing price, labeled as  $P^r$
  - (d) Given your answer in part (b), indicate whether Brunelle is producing the allocatively efficient level of output. Explain.
  - (e) Explain what will happen to Brunelle's demand curve as other firms adopt the same technology.

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2. In each part below, assume that the government imposes a per-unit sales tax and that the supply curve is upward-sloping.
- (a) In industry X, consumers buy the same quantity no matter what the price is.
    - (i) Using a correctly labeled graph, show what happens to the quantity sold when the tax is imposed.
    - (ii) How will the burden of the tax be distributed between buyers and sellers?
  - (b) In industry Y, the market demand curve is perfectly elastic.
    - (i) Using a correctly labeled graph, show what happens to the price of the good that the consumers pay when the tax is imposed.
    - (ii) How will the burden of the tax be distributed between buyers and sellers?
  - (c) In industry Z, the market demand curve is downward-sloping. Using a correctly labeled graph, shade the area that represents total tax revenues.

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3. The diagram above shows the domestic supply and demand for good X in the country of Placonia.
- If the current world price of good X is  $P_w$ , does Placonia export or import good X? Explain.
  - Given your answer in part (a), indicate the quantity of good X that Placonia exports or imports.
  - Assume that the government of Placonia imposes a tariff on good X, increasing the price from  $P_w$  to  $P_t$ . Using the labels in the graph, indicate the change in each of the following in Placonia.
    - Consumer surplus
    - Producer surplus
  - Indicate how employment in the domestic industry that produces good X is affected by the tariff.

**END OF EXAMINATION**