

## **2006 AP® MICROECONOMICS FREE-RESPONSE QUESTIONS**

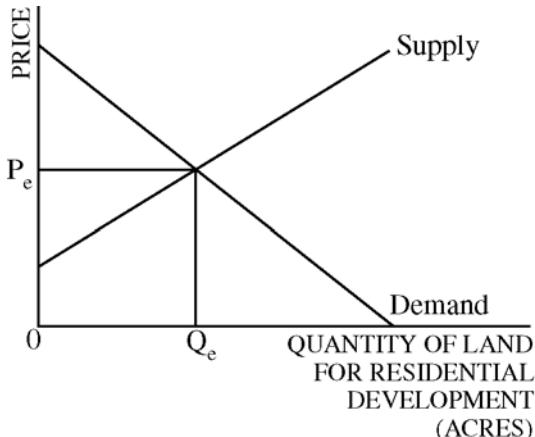
- (c) Assume that the price is set at  $P_2$ . Assuming the existence of an opportunity cost, indicate whether the museum's accounting profits would be positive, negative, or zero. Explain why.
- (d) Assume that the government decides the museum should charge no admission and agrees to subsidize the museum for any losses.
- Using the labeling in the graph, identify the museum's attendance under that circumstance.
  - Would the outcome be allocatively efficient? Explain.
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**Short-Run Total Cost Function**

Quantity Produced	Total Cost (in dollars)
0	20
1	27
2	38
3	53
4	72
5	95
6	122

2. The table above gives the short-run total cost function for a typical firm in a perfectly competitive industry.
- What is the dollar value of the firm's total fixed cost?
  - Calculate the marginal cost of producing the first unit of output.
  - If the price the firm receives for its product is \$20, indicate the firm's profit-maximizing quantity of output and explain how you determined your answer.
  - Given your results in part (c), explain what will happen to the number of firms in the industry in the long run.
  - Assume that this firm operates in a constant-cost industry and has reached long-run equilibrium. If the government imposes a per-unit tax of \$2, indicate what will happen to the firm's profit-maximizing output in the long run.

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3. The supply and demand for land for residential development is shown in the diagram above. The land supplied for such development comes from privately held open-space land or privately held farmland.
- Redraw the graph above and show how an increase in income will affect the equilibrium price and quantity of land converted into residential development, assuming that land for residential development is a normal good.
  - Redraw the graph above and show how a decrease in government per-unit subsidies to farmers will affect the equilibrium price and quantity of land converted into residential development.
  - Assume that the conversion of open-space land and farmland imposes costs on the general population, which can no longer enjoy the scenic vistas.
    - Indicate whether the marginal social cost of converting land is greater than, less than, or equal to the marginal private cost of converting land.
    - Explain whether the private market quantity of land converted into residential development is socially optimal.

**STOP**

**END OF EXAM**

**AP<sup>®</sup> MICROECONOMICS  
2006 SCORING GUIDELINES**

**Question 2**

**7 points** (1 + 1 + 2 + 2 + 1)

- (a) 1 point:  
• One point is earned for indicating that TFC is \$20.
- (b) 1 point:  
• One point is earned for indicating that MC of the first unit is \$7.
- (c) 2 points:  
• One point is earned for indicating that the profit-maximizing output=4 units (or between 4 and 5 units).  
• One point is earned for explaining that  $MR > MC$  for all units until  $Q=5$  (or direct calculation of  $TR - TC$ ).
- (d) 2 points:  
• One point is earned for concluding that the number of firms will increase.  
• One point is earned for explaining that profits will attract new firms to enter.
- (e) 1 point:  
• One point is earned for stating that there is no change in the profit-maximizing output.