

# **2019 AP® MICROECONOMICS FREE-RESPONSE QUESTIONS**

## **MICROECONOMICS**

### **Section II**

**Total Time—1 hour**

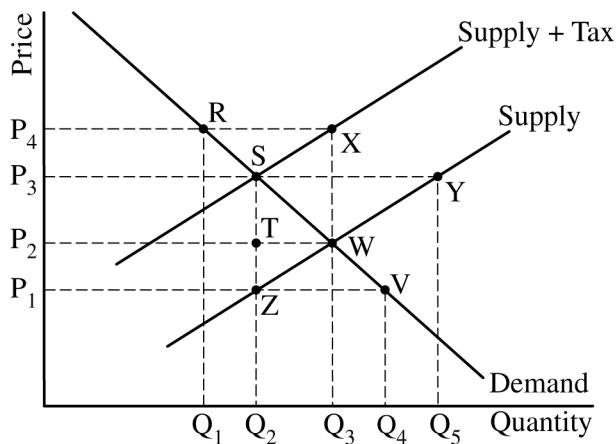
**Reading Period—10 minutes**

**Writing Period—50 minutes**

**Directions:** You are advised to spend the first 10 minutes reading all of the questions and planning your answers. You will then have 50 minutes to answer all three of the following questions. You may begin writing your responses before the reading period is over. 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. 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. Gigantic Pharmaceutical Corporation has a patent on a prescription drug, making it the only manufacturer of that prescription drug. Gigantic is currently earning a positive economic profit.
  - (a) Draw a correctly labeled graph for Gigantic and show each of the following.
    - (i) The profit-maximizing quantity, labeled  $Q_G$
    - (ii) The profit-maximizing price, labeled  $P_G$
    - (iii) The average total cost curve, labeled ATC
    - (iv) The area representing the consumer surplus, shaded completely
  - (b) Suppose the demand for the prescription drug increases, and Gigantic hires its warehouse workers in a perfectly competitive labor market.
    - (i) What will happen to Gigantic's demand for warehouse workers? Explain.
    - (ii) What will happen to the wage rate Gigantic pays its warehouse workers and the number of warehouse workers it hires?
  - (c) After Gigantic's patent expires, another firm enters the prescription drug market and produces an identical drug that sells for a lower price.
    - (i) What will happen to Gigantic's producer surplus?
    - (ii) What will happen to the consumer surplus in this prescription drug market? Explain.

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2. Hats are produced in a perfectly competitive industry, and the government imposes a per-unit sales tax on hats.
- Using the labeling from the graph, identify each of the following.
    - The after-tax price paid by consumers and the after-tax quantity
    - The area representing the total tax revenue received by the government
  - Now assume instead that the demand for hats is perfectly inelastic at  $Q_3$ , while the supply and the per-unit tax remain unchanged.
    - Will the after-tax price paid by consumers be higher, lower, or the same compared to the price in your answer to part (a)(i) ?
    - Will the total tax revenue received by the government be higher, lower, or the same compared to the tax revenue in your answer to part (a)(ii) ? Explain.
  - If the demand for hats remains perfectly inelastic at  $Q_3$  and the per-unit sales tax is reduced, will producer surplus increase, decrease, or stay the same? Explain.

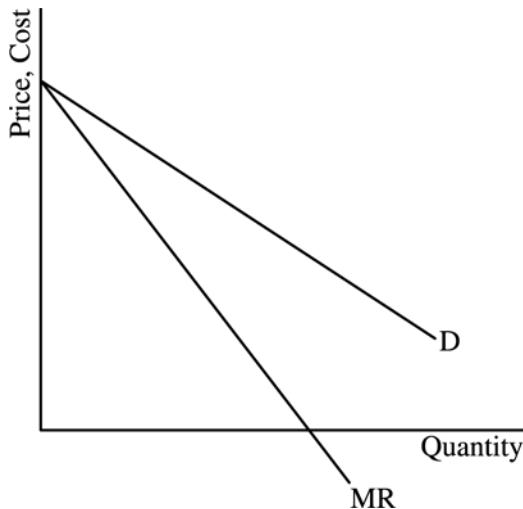
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**Question 1**

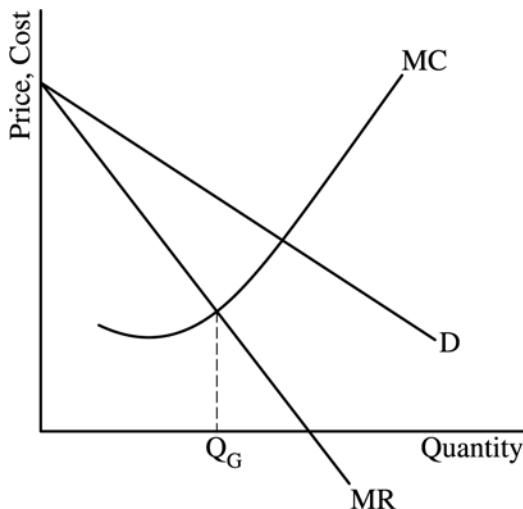
**9 points (5 + 2 + 2)**

(a) 5 points

- One point is earned for drawing a correctly labeled graph of the monopoly showing downward-sloping demand (D) and marginal revenue (MR) curves with the MR curve below the demand curve.



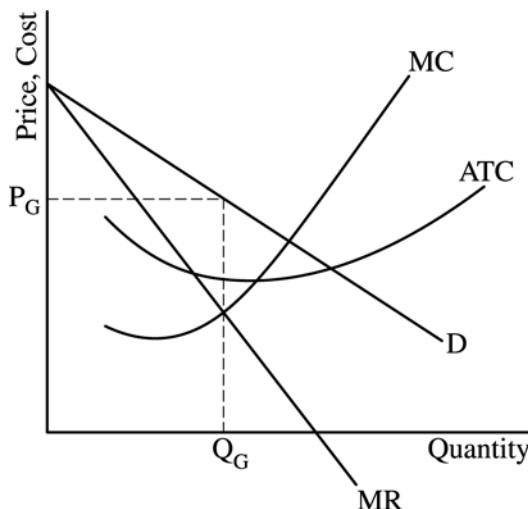
- One point is earned for showing the profit-maximizing quantity, labeled  $Q_G$ , where  $MR=MC$ .



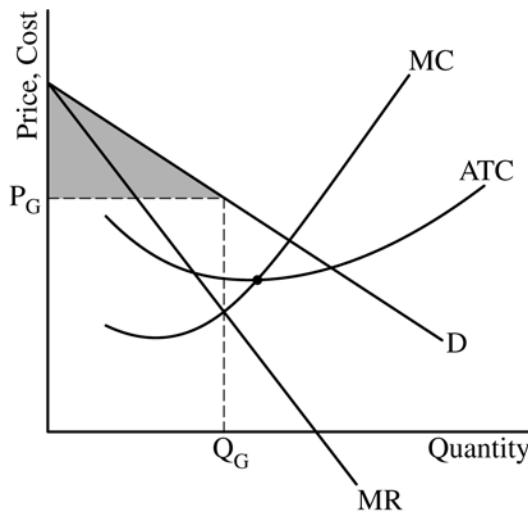
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**Question 1 (continued)**

- One point is earned for both showing the profit-maximizing price, labeled  $P_G$ , from the demand curve at  $Q_G$ , and above the average total cost (ATC) curve.
- One point is earned for showing the marginal cost (MC) curve rising and passing through the minimum point of the ATC curve.



- One point is earned for completely shading the area of the consumer surplus.



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**Question 1 (continued)**

(b) 2 points

- One point is earned for stating that Gigantic Pharmaceutical Corporation's demand for warehouse workers will increase and for explaining that the marginal revenue product of labor increases because of the increase in the product price.
- One point is earned for stating that the wage rate Gigantic pays to its warehouse workers will not change and the number of workers hired will increase.

(c) 2 points

- One point is earned for stating that Gigantic's producer surplus will decrease.
- One point is earned for stating that the consumer surplus will increase and for explaining that because of the increased competition the price will decrease and the quantity will increase.