

2021

AP[®]

 CollegeBoard

AP[®] Microeconomics

Free-Response Questions

Set 1

MICROECONOMICS

SECTION II

Total Time—1 hour

Reading Period—10 minutes

Writing Period—50 minutes

3 Questions

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. If the question prompts you to “Calculate,” you must show how you arrived at your final answer. Use a pen with black or dark blue ink.

You may plan your answers in this orange booklet, but no credit will be given for anything written in this booklet. **You will only earn credit for what you write in the separate Free Response booklet.**

1. The government of an island nation grants SkyRunner Airlines exclusive monopoly rights to serve the island. SkyRunner is earning positive economic profits.

(a) Draw a correctly labeled graph for SkyRunner, and show each of the following.

- (i) The profit-maximizing quantity of tickets, labeled Q_M
- (ii) The profit-maximizing price of a ticket, labeled P_M
- (iii) The area representing profits, shaded completely

Now the island's tourist bureau asks the government to consider the following two proposals.

- Proposal I: Set a price ceiling on tickets that eliminates all deadweight loss.
- Proposal II: Eliminate SkyRunner's monopoly rights, which will remove all barriers to entry.

(b) Suppose the government adopts proposal I. On your graph in part (a), indicate the quantity of tickets sold in the short run, labeled Q_C .

(c) Suppose instead the government adopts proposal II. How will each of the following be affected in the long run compared to the market conditions in part (a) ?

- (i) The quantity of tickets sold by SkyRunner. Explain.
- (ii) The price elasticity of demand for SkyRunner's airline service. Explain.
- (iii) SkyRunner's profits
- (iv) The deadweight loss in the market. Explain.

Begin your response to this question at the top of a new page in the separate Free Response booklet and fill in the appropriate circle at the top of each page to indicate the question number.

Number of Workers	Number of Parked Cars
0	0
1	8
2	20
3	34
4	45
5	54
6	60
7	63

2. Assume that Schmitt Inc. provides car parking services in a perfectly competitive output market and hires labor in a perfectly competitive input market. The market price per car parked is \$10, the daily market wage per worker is \$100, and fixed costs are \$50 per day. The table above shows the number of workers required to park different quantities of cars per day.

(a) Calculate the marginal revenue product of the second worker. Show your work.

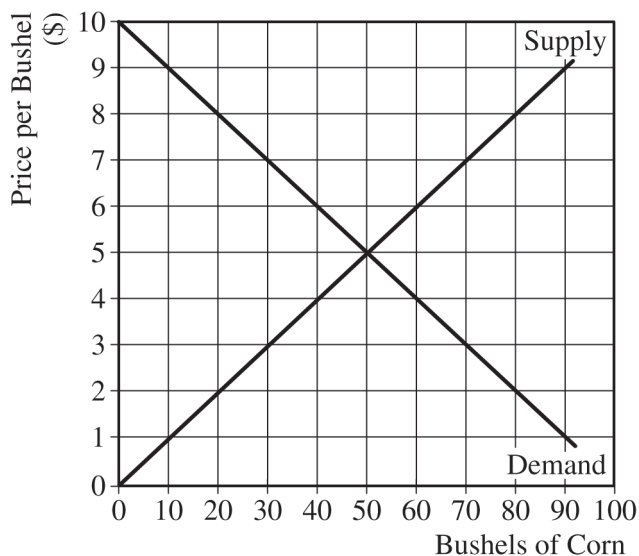
(b) How many workers will Schmitt Inc. hire to maximize profit? Relative to this number of hired workers, explain why Schmitt Inc. will not hire one additional worker. Your answer must use marginal analysis and numbers from the table.

(c) Calculate the daily profit for Schmitt Inc. at the profit-maximizing quantity identified in part (b). Show your work.

(d) Suppose new legislation requires each worker in the parking industry to purchase an individual insurance policy at the worker's expense in order to legally park cars.

- (i) Will the market wage paid by a typical firm in this industry increase, decrease, or stay the same in the long run?
- (ii) For a typical firm in the industry, will the number of workers hired in the short run increase, decrease, or stay the same? Explain.

Begin your response to this question at the top of a new page in the separate Free Response booklet and fill in the appropriate circle at the top of each page to indicate the question number.



3. The diagram above shows the market for corn in the country of Microland. Corn is produced and sold in a constant-cost, perfectly competitive market.
- (a) Calculate the total revenue earned by corn farmers at the market equilibrium price. Show your work.
- (b) In an attempt to assist corn farmers in Microland, the government sets a \$7 price floor on corn.
- How many bushels of corn will be exchanged at the price floor?
 - Calculate the deadweight loss associated with the price floor. Show your work.
 - Assume the government agrees to buy the unsold quantity at \$7. Calculate the producer surplus. Show your work.
 - Assume the price floor and the government buying program remain in effect. In addition, assume the demand for corn does not change. In the long run, will the quantity of corn purchased by the government increase, decrease, or remain the same? Explain.

Begin your response to this question at the top of a new page in the separate Free Response booklet and fill in the appropriate circle at the top of each page to indicate the question number.

STOP

END OF EXAM