2025

AP® Microeconomics

Free-Response Questions

Set 1

MICROECONOMICS

SECTION II

TIME – 1 HOUR

Directions:

Section II has 3 questions and lasts 1 hour.

You may use the available paper for scratch work and planning, but you must write your answers in the free-response booklet. Label parts (e.g., A, B, C) and sub-parts (e.g., i, ii, iii) as needed. Use a pencil or a pen with black or dark blue ink to write your responses.

Include correctly labeled graphs, if useful or required, in explaining your answers. A correctly labeled graph 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.

A calculator is allowed in this section. You may use a handheld calculator that is approved for this exam or the calculator available in this application.

You may pace yourself as you answer the questions in this section, or you may use these optional timing recommendations:

It is suggested that you spend the first 10 minutes reading all of the questions and planning your answers. Then, it is suggested that you spend about 25 minutes on question 1 and about 12 minutes each on questions 2 and 3.

You can go back and forth between questions in this section until time expires. The clock will turn red when 5 minutes remain—**the proctor will not give you any time updates or warnings.**

Note: This exam was originally administered digitally. It is presented here in a format optimized for teacher and student use in the classroom.

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1. Voda Reservoir is a profit-maximizing firm and the only producer of bottled water in a country. Currently, Voda Reservoir is earning negative economic profit.

A. Draw a correctly labeled graph for Voda Reservoir and show each of the following.

i. The profit-maximizing quantity, labeled Q_M

ii. The profit-maximizing price, labeled P_M

iii. The average total cost curve consistent with Voda Reservoir earning negative economic profit, labeled ATC

iv. The area of deadweight loss, shaded completely

B. Suppose the government requires Voda Reservoir to produce the socially optimal quantity of bottled water. On your graph in part A, show the socially optimal quantity of bottled water, labeled Q_S.

C. Suppose instead the government grants a per-unit subsidy to Voda Reservoir. What will happen to Voda Reservoir's profit-maximizing quantity of bottled water? Explain.

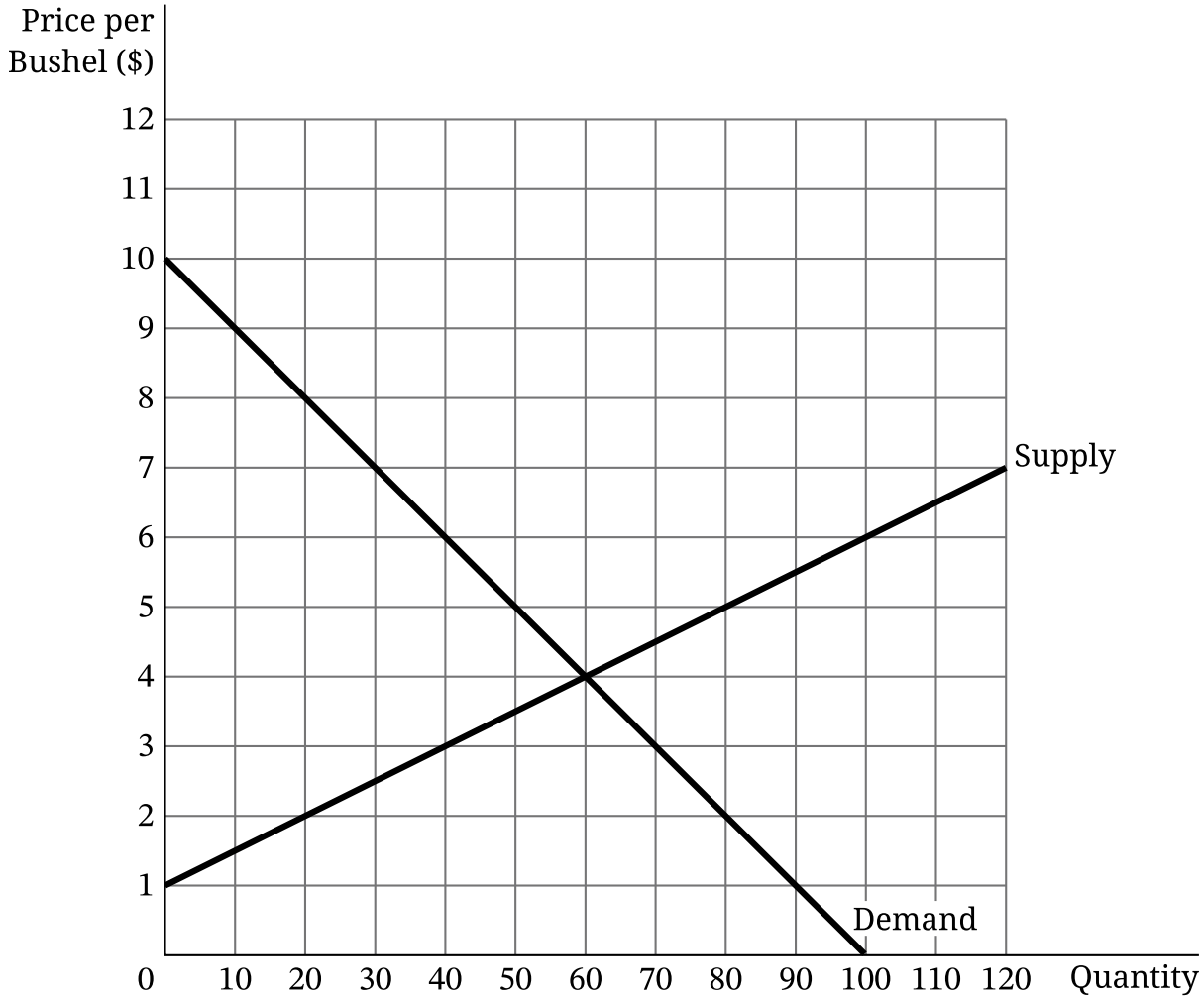
D. Suppose new producers have entered the bottled-water market and Voda Reservoir continues to operate in the bottled-water market. Will the demand for Voda Reservoir's bottled water become more elastic, become less elastic, or stay the same as new producers enter the market?

E. Voda Reservoir hires workers in a perfectly competitive labor market.

i. If the demand for bottled water increases, what will happen to Voda Reservoir's demand for labor? Explain.

ii. The government implements a new regulation that increases the minimum age required for a worker to be employed in a bottled-water factory. What will happen to the market wage in the short run? Explain.

2. The graph provided shows the market for rice in the country of Rushland.



A. Calculate the total economic surplus at market equilibrium. Show your work.

B. If the government sets a price floor at $3 per bushel, will there be a surplus, a shortage, or neither? Explain.

C. Suppose that instead of the price floor, Rushland engages in international trade and the world price of rice is $5 per bushel.

i. Will Rushland export or import rice? Explain using numbers from the graph.

ii. Calculate the domestic consumer surplus when Rushland engages in international trade. Show your work.

iii. Calculate the total revenue that Rushland's farmers will earn at the world price. Show your work.

3. Tony's Trinkets and Bitaly's Bracelets are the only two firms in a town that produce and sell jewelry. Tony's Trinkets is deciding whether to produce Unique jewelry or Typical jewelry. Bitaly's Bracelets is deciding whether to produce Gold jewelry or Silver jewelry. The payoff matrix shows the payoffs for each combination of strategies. The first entry in each cell shows Tony's Trinkets' profit, and the second entry shows Bitaly's Bracelets' profit. Each firm independently and simultaneously chooses its strategy. Assume that the two firms know all the information in the matrix and do not cooperate.

		Bitaly's Bracelets	
		Gold	Silver
Tony's Trinkets	Unique	\$15, \$21	\$20, \$19
	Typical	\$10, \$7	\$21, \$16

A. Suppose Bitaly's Bracelets chooses to produce Silver jewelry. Is choosing to produce Unique jewelry the best choice for Tony's Trinkets? Explain using numbers from the payoff matrix.

B. Is Bitaly's Bracelets' dominant strategy to produce Gold jewelry, to produce Silver jewelry, or does it not have a dominant strategy? Explain using numbers from the payoff matrix.

C. Identify all Nash equilibria for this game.

D. Suppose Tony's Trinkets' profit from producing Typical jewelry increases regardless of what Bitaly's Bracelets does. What is the minimum amount by which Tony's Trinkets' profit must increase in order for Typical jewelry to become a dominant strategy: \$2, \$4, \$6, \$11, or \$15?

E. Suppose instead that these two firms now cooperate and merge into one firm to maximize their combined profits. The new firm will have two locations and continue to face the same actions and payoffs. Calculate the new firm's maximum combined profit. Show your work.

STOP

END OF EXAM