2025

AP® Microeconomics

Sample Student Responses and Scoring Commentary Set 1

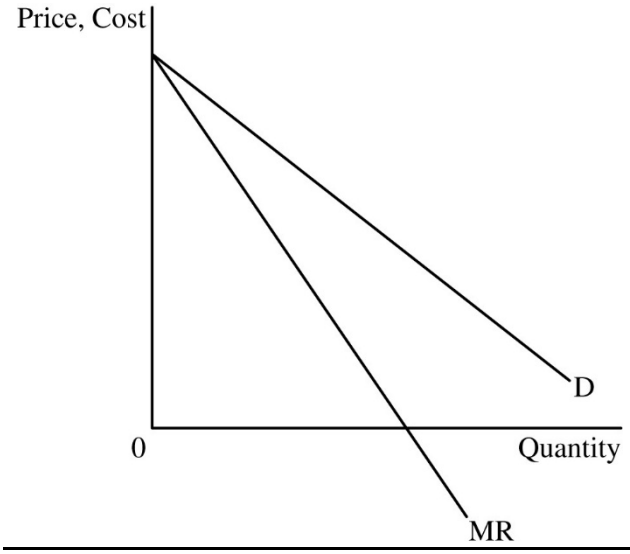
Inside:

Free-Response Question 1

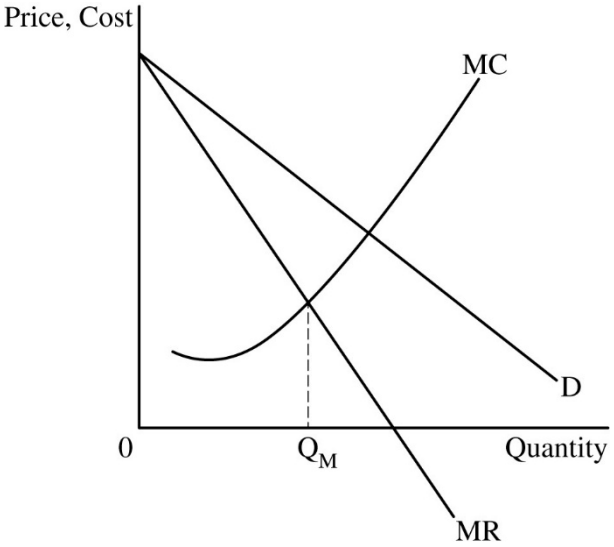
- ☑ **Scoring Guidelines**
- ☑ **Student Samples**
- ☑ **Scoring Commentary**

Question 1: Long — 10 points

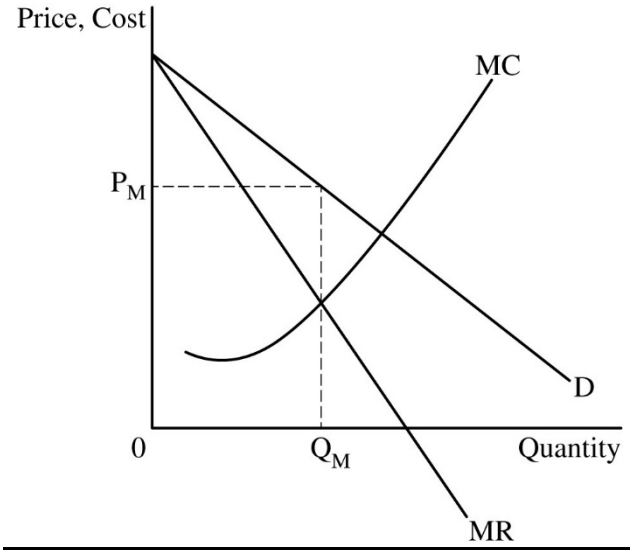
A Point 1	Draw a correctly labeled graph for Voda Reservoir with a downward-sloping demand (D) curve and a downward-sloping marginal revenue (MR) curve with the MR curve below the D curve.	**1 point**



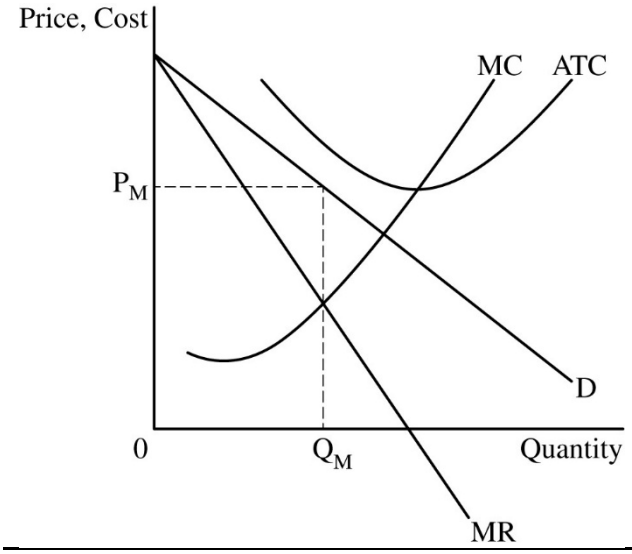
Point 2	The graph must show a rising marginal cost (MC) curve and the profit-maximizing quantity, labeled Q_M, where MR = MC.	**1 point**



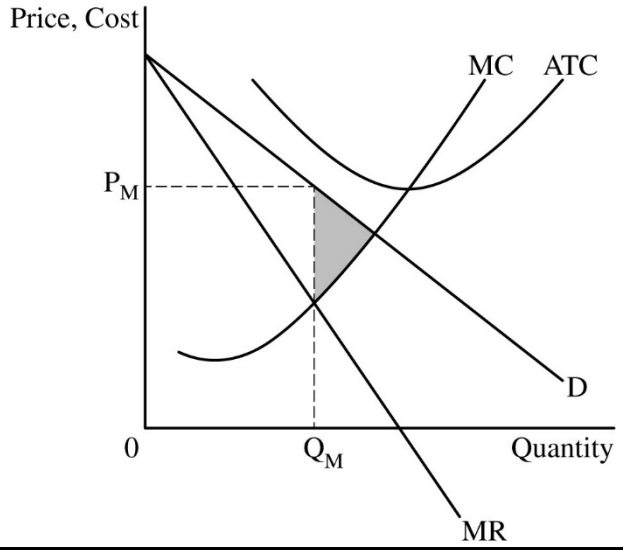
Point 3 The graph must show the profit-maximizing price, labeled P_M, from the D curve at Q_M. **1 point**



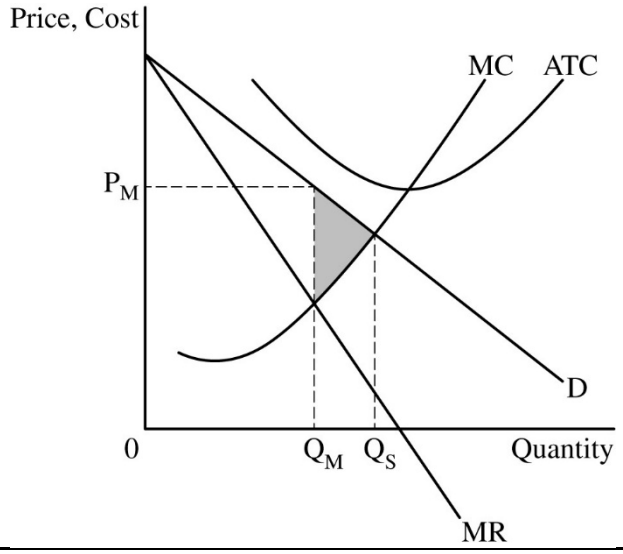
Point 4 The graph must show the average total cost (ATC) curve above the D curve and show the MC curve passing through the minimum point of the ATC curve. **1 point**



Point 5	The graph must show the area of deadweight loss, shaded completely.	**1 point**



B Point 6	The graph from part A must show the socially optimal quantity of bottled water, labeled Q_S, from the intersection of the D and MC curves.	**1 point**



C Point 7	State that Voda Reservoir's profit-maximizing quantity of bottled water will increase and explain with **ONE** of the following: • The per-unit subsidy decreases the firm's marginal cost, which shifts the MC curve to the right (down), intersecting the MR curve at a greater quantity. • The per-unit subsidy increases the firm's marginal revenue, which shifts the MR curve to the right, intersecting the MC curve at a greater quantity.	**1 point**
D Point 8	State that the demand for Voda Reservoir's bottled water will become more elastic.	**1 point**

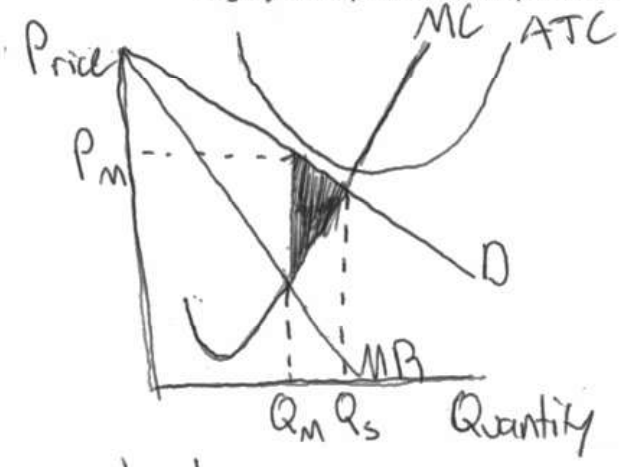
E Point 9	**(i)**	State that Voda Reservoir's demand for labor will increase and explain that the increase in demand for bottled water will increase the price and marginal revenue of bottled water, increasing the marginal revenue product of labor.	**1 point**
Point 10	**(ii)**	State that the market wage will increase in the short run and explain that the new regulation will decrease the supply of workers.	**1 point**

Important: Completely fill in the circle that corresponds to the question you are answering on this page.

Question 1 ● **Question 2** ○ **Question 3** ○

Begin your response to each question at the top of a new page.

A)



B) see graph above

C) The profit maximizing quantity will increase. This is because the per-unit subsidy will make producing the good cheaper and shift Marginal cost downwards. Since the profit maximizing quantity is at MR=MC, a downward shift in MC will lead the intersection point of MR and MC, also known as the profit maximizing ~~price~~ quantity, to occur at an increased quantity.

D) Demand will become more elastic

E) i. Demand for labor will increase. This is because an increase in a products demand will increase the industries equilibrium price. Since labor demand is also known as MRP, which has 2 components, marginal product and marginal revenue. This increase in equilibrium price will increase Vada Reservoir's marginal revenue and therefore also increase its marginal revenue product, also known as its demand for labor.

Page 2

Use a pencil or pen with black or dark blue ink. Do NOT write your name. Do NOT write outside the box.

Q5517/02

Important: Completely fill in the circle that corresponds to the question you are answering on this page.

Question 1 ● **Question 2** ○ **Question 3** ○

Begin your response to each question at the top of a new page.

E)ii. Market wage will increase. This is because the minimum age law will decrease the supply of workers in the bottled-water industry since less people are legally able to work in the industry. This will result in the new supply curve intersecting the demand for workers at a higher wage and therefore increasing the market wage in the short run.

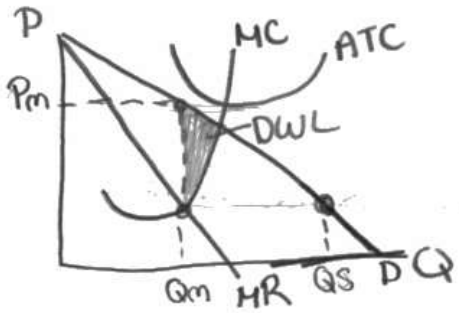
Use a pencil or pen with black or dark blue ink. Do NOT write your name. Do NOT write outside the box.

Important: Completely fill in the circle that corresponds to the question you are answering on this page.

Question 1 ● Question 2 ○ Question 3 ○

Begin your response to each question at the top of a new page.

1) A.



C. The Voda Reservoir's profit maximizing will produce at a positive ATC.

D. The demand for Voda Reservoir's bottled water will become more elastic.

Ei. If the demand for bottled water increases, the demand of labor will also increase.

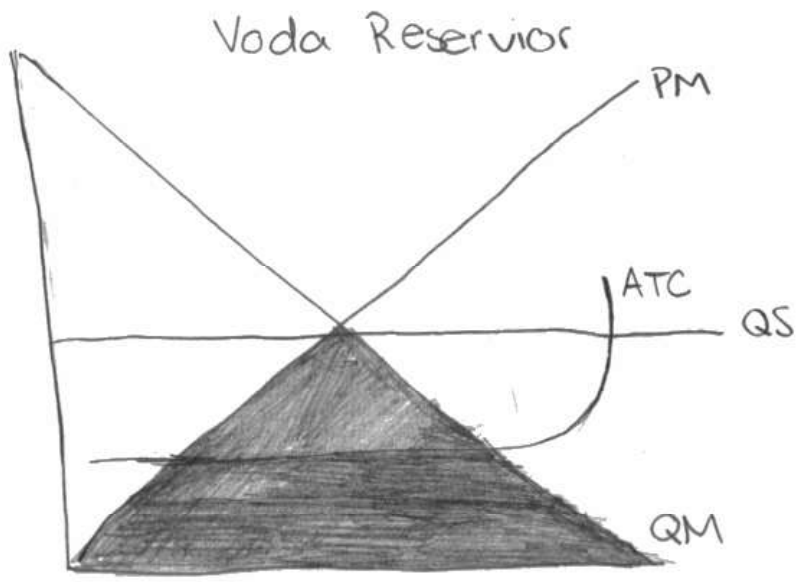
Eii. The market wage will increase in the short run.

Important: Completely fill in the circle that corresponds to the question you are answering on this page.

Question 1 ● **Question 2** ○ **Question 3** ○

Begin your response to each question at the top of a new page.

A.



C. The profit-maximizing quantity of bottled water will increase.

D. The demand will become more elastic.

E.

i. The demand for labor will increase if demand for bottled water increases.

ii. The market wage will decrease due to new workers.

Use a pencil or pen with black or dark blue ink. Do NOT write your name. Do NOT write outside the box.

Question 1

Note: Student samples are quoted verbatim and may contain spelling and grammatical errors.

Overview

NEW for 2025: The question overviews can be found in the *Chief Reader Report on Student Responses* on AP Central.

Sample: 1A
Score: 10

Part A

The response earned point 1 for showing a downward-sloping demand (D) curve and a downward-sloping marginal revenue (MR) curve with the MR curve below the D curve. The response earned point 2 for showing a rising marginal cost (MC) curve and the profit-maximizing quantity, labeled Q_M, where MR = MC. The response earned point 3 for showing the profit-maximizing price, labeled P_M, from the D curve at Q_M. The response earned point 4 for showing the average total cost (ATC) curve above the D curve and showing the MC curve passing through the minimum point of the ATC curve. The response earned point 5 for showing the area of deadweight loss, shaded completely.

Part B

The response earned point 6 for showing the socially optimal quantity of bottled water, labeled Q_S, from the intersection of the D and MC curves.

Part C

The response earned point 7 for stating that the profit-maximizing quantity of bottled water will increase and explaining that the per-unit subsidy will shift the MC curve downward, intersecting the MR curve at an increased quantity.

Part D

The response earned point 8 for stating that demand will become more elastic.

Part E

The response earned point 9 for stating that demand for labor will increase and explaining that the increase in demand for bottled water will increase the marginal revenue and therefore increase the marginal revenue product of labor. The response earned point 10 for stating that the market wage will increase and explaining that the new regulation will decrease the supply of workers.

Question 1 (continued)

Sample: 1B
Score: 6

Part A

The response earned point 1 for showing a downward-sloping demand (D) curve and a downward-sloping marginal revenue (MR) curve with the MR curve below the D curve. The response earned point 2 for showing a rising marginal cost (MC) curve and the profit-maximizing quantity, labeled Q_M, where MR = MC. The response earned point 3 for showing the profit-maximizing price, labeled P_M, from the D curve at Q_M. The response earned point 4 for showing the average total cost (ATC) curve above the D curve and showing the MC curve passing through the minimum point of the ATC curve. The response earned point 5 for showing the area of deadweight loss, shaded completely.

Part B

The response did not earn point 6 because the response does not show the socially optimal quantity of bottled water, labeled Q_S, from the intersection of the D and MC curves.

Part C

The response did not earn point 7 because the response does not state that the profit-maximizing quantity of bottled water will increase as a result of the per-unit subsidy.

Part D

The response earned point 8 for stating that the demand will become more elastic.

Part E

The response did not earn point 9 because the response does not explain that the increase in the demand for bottled water will increase the marginal revenue of bottled water, increasing the marginal revenue product of labor. The response did not earn point 10 because the response does not explain that the increase in the market wage results from a decrease in the supply of workers because of the new regulation.

Question 1 (continued)

Sample: 1C
Score: 1

Part A

The response did not earn point 1 because the response does not show a downward-sloping demand (D) curve and a downward-sloping marginal revenue (MR) curve with the MR curve below the D curve. The response did not earn point 2 because the response does not show a rising marginal cost (MC) curve and the profit-maximizing quantity, labeled Q_M, where MR = MC. The response did not earn point 3 because the response does not show the profit-maximizing price, labeled P_M, from the D curve at Q_M. The response did not earn point 4 because the response does not show the average total cost (ATC) curve above the D curve, nor does it show the MC curve passing through the minimum point of the ATC curve. The response did not earn point 5 because the response does not show the area of deadweight loss, shaded completely.

Part B

The response did not earn point 6 because the response does not show the socially optimal quantity of bottled water, labeled Q_S, from the intersection of the D and MC curves.

Part C

The response did not earn point 7 because the response does not explain that the per-unit subsidy decreases the firm's marginal cost, which would shift the MC curve to the right (down), intersecting the MR curve at a greater quantity.

Part D

The response earned point 8 for stating that the demand will become more elastic.

Part E

The response did not earn point 9 because the response does not correctly explain that the increase in the demand for bottled water will increase the marginal revenue of bottled water, increasing the marginal revenue product of labor. The response did not earn point 10 because the response incorrectly states the market wage will decrease.