2022

AP CollegeBoard

AP® Microeconomics

Sample Student Responses and Scoring Commentary Set 2

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Free-Response Question 2

- ☑ **Scoring Guidelines**
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Question 2: Short — 5 points

(a)		Calculate the consumer surplus in New Zealand before trade as \$4,500 and show your work. $\text{Consumer Surplus} = \frac{1}{2} \times 300 \times (\$70 - \$40) = \frac{1}{2} \times 300 \times \$30 = \frac{\$9{,}000}{2} = \$4{,}500$	**1 point**
(b)	**(i)**	State that New Zealand will export 400 units of wool.	**1 point**
	(ii)	State that consumer surplus in New Zealand will decrease and explain with **ONE** of the following: • The domestic price will increase to the world price, which decreases the domestic quantity demanded of wool. • The consumer surplus decreased from \$4,500 before trade to \$500 after trade.	**1 point**
	(iii)	State that total economic surplus in New Zealand will increase by \$4,000 and explain that producer surplus will increase by \$8,000 while consumer surplus will decrease by \$4,000, resulting in an increase in total economic surplus.	**1 point**
		Total for part (b)	**3 points**
(c)		State that New Zealand's exports will decrease.	**1 point**
		Total for question 2	**5 points**

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.

2 a) $(70-40) \times 300 \times \frac{1}{2} = \$4500$

b) i. $500 - 100 = 400$

ii. decrease, world price of wool is higher than domestic price. Consumers are now paying the higher world price and consumer surplus (area below demand above price) now decreases to $(70-60) \times 100 \times \frac{1}{2} = \$500$, $\$4500 > \$500$

iii. Total economic surplus increase, original surplus was $(70-10) \times 300 \times \frac{1}{2} = \$9000$, vs. surplus after trade which is $[(70-60) \times 100 \times \frac{1}{2}] + [(60-10) \times 500 \times \frac{1}{2}] = \$13000$

consumer surplus; producer surplus

c) exports would decrease. With inc in domestic demand surplus of wool, which would be exported, decreases.

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) Consumer surplus = $\frac{1}{2}(30 \cdot 300) = 4500$

b) i) New Zealand would export 500 units of wool.

ii) The consumer surplus of wool consumers in New Zealand will decrease because the price increased from $40 to $60, which means there is a smaller difference between what they are willing to pay and what they actually pays.

iii) The total economic surplus in New Zealand will increase because it changes from 9,000 to 13,000 after New Zealand begins to trade wool in the world market.

c) New Zealand's exports will decrease.

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) 1/2 x 300 x 30 = $4500

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  300
x  15
-----
 1500
 3000
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 4500
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b) i. 100

ii. It decreases because the world price is above the equilibrium price.

iii. It will increase because less people will buy that product because the price is so high. The quantity went from $40,300 to $60,100.

c) increase

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

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Question 2

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

Overview

The question assessed students' understanding of the effect of opening a domestic market to international trade. The question also assessed students' ability to identify consumer surplus and analyze changes in consumer surplus, producer surplus, and total economic surplus when a country decides to trade in the world market.

The question included a graph with the domestic supply and demand in the market for wool for New Zealand with price values of $0–$70 and quantities values 0–500 on a grid. Part (a) of this question asked students to calculate the domestic consumer surplus when New Zealand does not engage in international trade. The students were directed to show their work, and they were expected to set up the equation correctly (CS = ½ × 300 × ($70 – $40), or CS = ½ × 300 × $30, or CS = $9,000 / 2) and to calculate the domestic consumer surplus as $4,500.

In part (b) of this question, students were told that New Zealand decided to trade in the world market for wool, with the current world price at $60 per unit, and that New Zealand was a price taker. Part (b)(i) asked students to identify the number of units of wool to be exported as 400 units. Students needed to use given data to make the identification but were not required to explain or show calculations.

Part (b)(ii) required students to assert that domestic consumer surplus would decrease and explain that when the domestic price increased to the world price the domestic quantity demanded would decrease with the changes in both price and quantity demanded resulting in a smaller area of domestic consumer surplus. Students were not asked to use specific numbers or show calculations. Alternatively, students could assert that domestic consumer surplus decreased and explain the change in domestic consumer surplus with calculations showing that consumer surplus had decreased from $4,500 to $500 after New Zealand engaged in world trade.

Part (b)(iii) asked students to determine that total economic surplus in New Zealand would increase when the country traded in the world market. Additionally, students were expected to explain the change in surplus using appropriate values, such as by showing that producer surplus increased by $8,000, while domestic consumer surplus decreased by $4,000, and total economic surplus increased by $4,000. Students were required to explain using numbers but were not required to show calculations.

In part (c) of this question, students were given that demand for wool in New Zealand increases. Students were asked to indicate how New Zealand's exports would decrease after a shift in domestic demand.

Question 2 (continued)

Sample: 2A
Score: 5

Part (a): 1 point

The response earned the point in part (a) because the response correctly calculates domestic consumer surplus as $4,500 and shows the work.

Part (b): 3 points

The response earned the point in part (b)(i) because the response correctly identifies 400 units will be exported. The response earned the point in part (b)(ii) because the response correctly states consumer surplus will decrease, calculates the new consumer surplus as $500, and compares to the original consumer surplus of $4,500. The response earned the point in part (b)(iii) because the response correctly states total economic surplus will increase and explains that the total economic surplus before trade was $9,000 and after trade is $13,000.

Part (c): 1 point

The response earned the point in part (c) because the response correctly states that exports will decrease.

Sample: 2B
Score: 3

Part (a): 1 point

The response earned the point in part (a) because the response correctly calculates domestic consumer surplus as $4,500 and shows the work.

Part (b): 3 points

The response did not earn the point in part (b)(i) because the response incorrectly identifies 500 units will be exported. The response did not earn the point in part (b)(ii) because the response does not explain that the quantity demanded will decrease. The response earned the point in part (b)(iii) because the response correctly states total economic surplus will increase and explains that the total economic surplus before trade was $9,000 and after trade is $13,000.

Part (c): 1 point

The response earned the point in part (c) because the response correctly states that exports will decrease.

Question 2 (continued)

Sample: 2C
Score: 1

Part (a): 1 point

The response earned the point in part (a) because the response correctly calculates domestic consumer surplus as $4,500 and shows the work.

Part (b): 3 points

The response did not earn the point in part (b)(i) because the response incorrectly identifies 100 units will be exported. The response did not earn the point in part (b)(ii) because the response does not explain that quantity demanded will decrease. The response did not earn the point in part (b)(iii) because the response does not explain that the change in total economic surplus with correct numbers before and after trade.

Part (c): 1 point

The response did not earn the point in part (c) because the response incorrectly states that exports will increase.