AP Microeconomics
Sample Student Responses and Scoring Commentary

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AP® MICROECONOMICS
2018 SCORING GUIDELINES

Question 2

6 points (1 + 1 + 1 + 1 + 2)

(a) 1 point:

- One point is earned for stating positive externality, and for explaining that either marginal social benefit is greater than marginal private benefit (MSB>MPB) or the equilibrium quantity is less than the socially optimal quantity.

(b) 1 point:

- One point is earned for identifying the market equilibrium price as $6 and the market equilibrium quantity as 16 units.

(c) 1 point:

- One point is earned for identifying the area of the deadweight loss as DEF.

(d) 1 point:

- One point is earned for identifying $4 as the dollar value of the per-unit subsidy.

(e) 2 points:

- One point is earned for identifying 8 units.

- One point is earned for stating no and explaining with one of the following reasons:
  - The quantity exchanged in the market will be less than the socially optimal quantity.
  - MSB>MSC at a quantity of 8 units.
  - Deadweight loss increased after the price floor.

(a) The word processing software is a positive externality and is being underallocated. The socially optimal quantity is greater than the quantity currently being produced (market quantity).

(b) market equilibrium price: $6
market equilibrium quantity: 16

(c) deadweight loss: DEF

(d) To achieve socially optimal quantity, government's per-unit subsidy should be $4.

(e) i. At the price floor, only 8 units are exchanged between consumers and producers. The price floor creates a surplus — they demand 8 units but producers over supply 24 units.

ii. No, the price floor does not correct the market failure because only 8 units are exchanged between consumer and producer. This is not equal to our socially optimal quantity of 24 units.

a. The market is allocatively inefficient due to the positive externality caused by the word processing software — even people without the software benefit from it. The MSB exceeds the MPB.

b. Market equilibrium price: $6
   market equilibrium quantity: 16

c. ~~DWL~~ DEF = deadweight loss

d. $2

e i. Producers will make 24 units, but consumers (individually) will demand only 8 units.

e ii. No, it doesn't

2 C

a) Positive Externality ~~Graph~~

b) Quantity = 24   Price = $8

c) HFI

d) $2

e) i) 8 Units

ii) The price floor doesn't correct the market failure because it is not above the market equilibrium, making it ineffective.

AP® MICROECONOMICS
2018 SCORING COMMENTARY

Question 2

Overview

This question assessed students' ability to identify and analyze market failure from a given graph. The concepts in the question included an analysis of market failure, identifying the private market equilibrium price and quantity, identifying the area of deadweight loss, calculating the per-unit subsidy, understanding the effects of a price floor, and understanding how the price floor addresses the market failure.

The question included a graph where the marginal social benefit is greater than the marginal private benefit. In part (a) students were asked to identify the type of market failure. Students were expected to recognize and explain the positive externality because the marginal social benefit (MSB) is greater than the marginal private benefit (MPB) or that the equilibrium quantity is less than the socially optimal quantity.

In part (b) students were expected to identify the private market equilibrium price of $6 and the market equilibrium quantity of 16 units.

Part (c) required students to use the labeling on the graph to identify the area of DEF as the deadweight loss at the quantity identified in part (b). The students could have also calculated the area of deadweight loss and shown their work for the point.

In part (d) students were expected to identify the per-unit subsidy of $4, which is the vertical difference between MSB and MPB at all quantities.

Part (e)(i) required students to analyze the effects of a price floor instead of a subsidy to correct the market failure. Students were expected to recognize that the quantity exchanged would be 8 units. In part (e)(ii) the students were asked to demonstrate that the price floor did not correct the market failure and to explain that the quantity exchanged will be less than the socially optimal quantity or that the marginal social benefit is greater than the marginal social cost at 8 units.

Sample: 2A
Score: 6

The student answers all parts of the question correctly and earned all 6 points.

Sample: 2B
Score: 3

The student did not earn 1 point in part (a) because the response does not identify the market failure as a positive externality. The student did not earn 1 point in part (a) because the response incorrectly identifies the area EFG instead of DEF as the deadweight loss. The student did not earn 1 point in part (d) because the response incorrectly states that $16 was per-unit subsidy instead of $4.

Sample: 2C
Score: 1

The student earned 1 point in part (e)(i) for stating that the consumers and producers will exchange 8 units at the price floor.