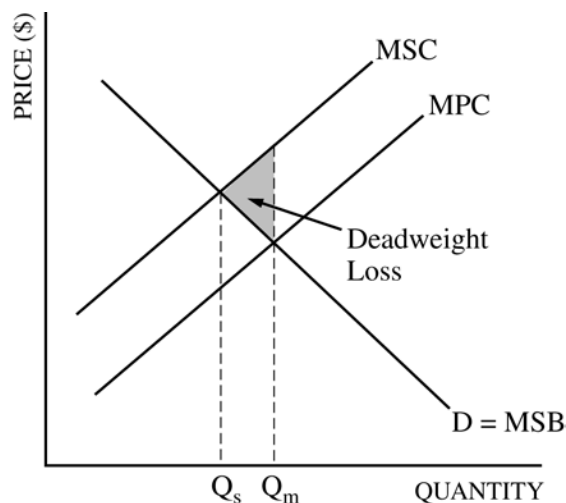


**AP<sup>®</sup> MICROECONOMICS  
2011 SCORING GUIDELINES**

**Question 3**

**5 points** (4 + 1)



(a) 4 points:

- One point is earned for showing a correctly labeled MSC curve above a correctly labeled MPC curve.
- One point is earned for drawing the correctly labeled graph with an upward-sloping MPC curve and a downward-sloping MSB curve and showing the private market equilibrium,  $Q_m$ .
- One point is earned for showing the allocatively efficient quantity  $Q_s$  with  $Q_s < Q_m$ .
- One point is earned for shading the area representing the deadweight loss.

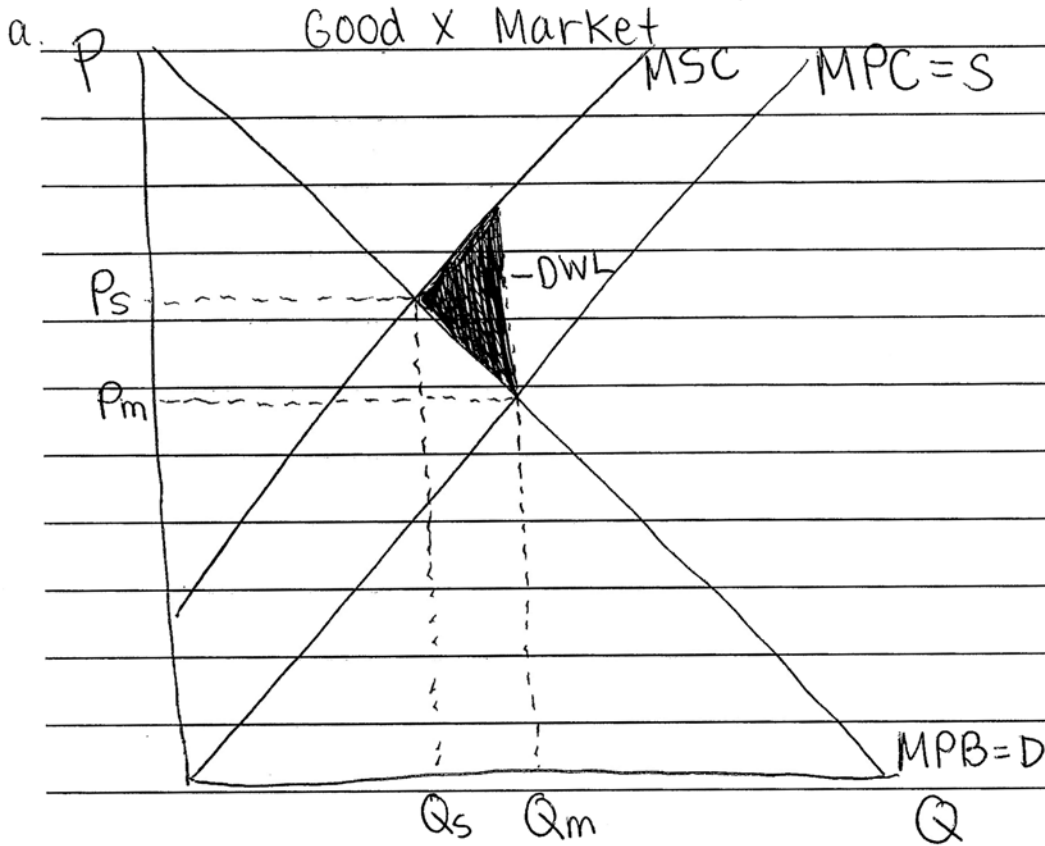
(b) 1 point:

- One point is earned for stating that the deadweight loss does not change because marginal cost does not change.

Write in the box the number of the question you are answering on this page as it is designated in the exam.

3

3A



~~Nothing happens to the deadweight loss because a lump-sum tax does not affect the marginal cost curves.~~

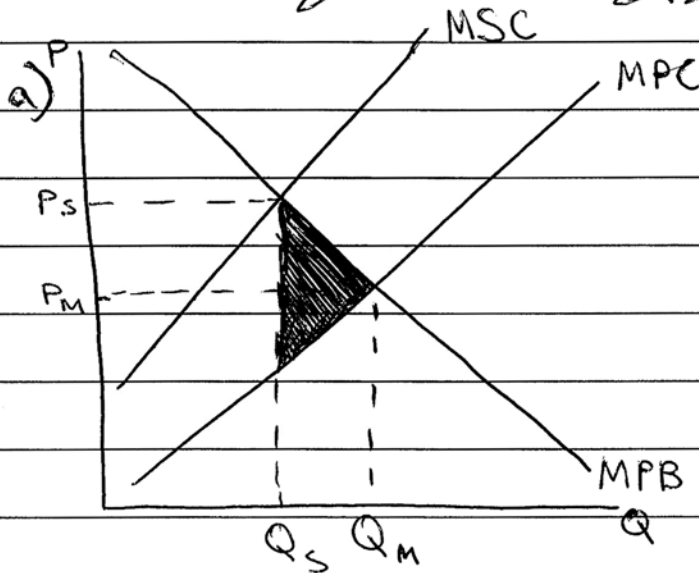
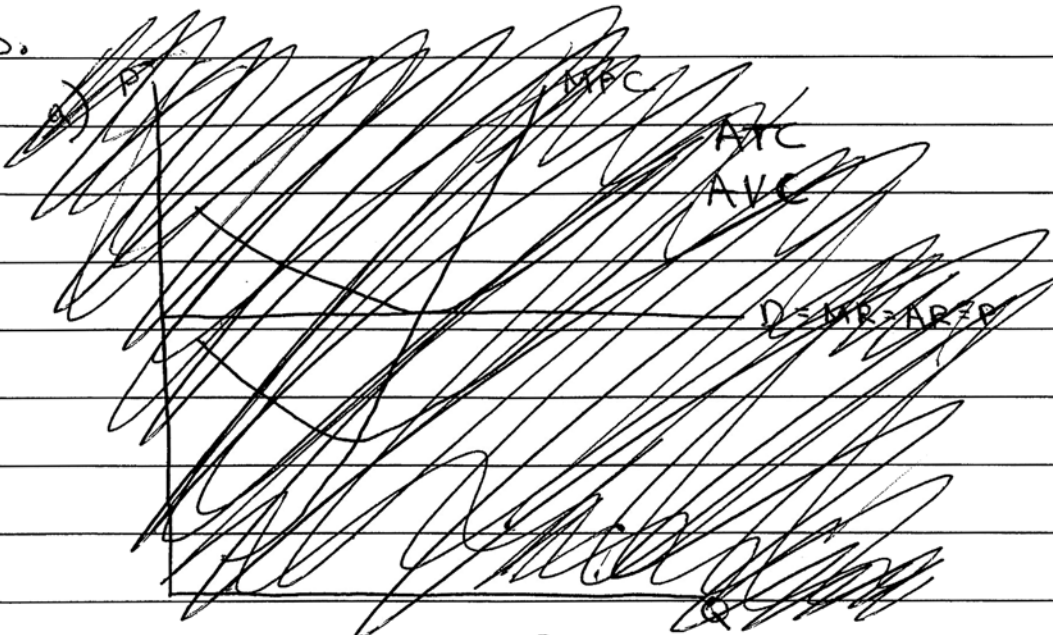
b. Nothing happens to the deadweight loss because a lump-sum tax does not affect ~~the marginal cost curves~~ or ~~the demand curve~~ shift the marginal cost curves.

Write in the box the number of the question you are answering on this page as it is designated in the exam.

FR # 3

3B

3.

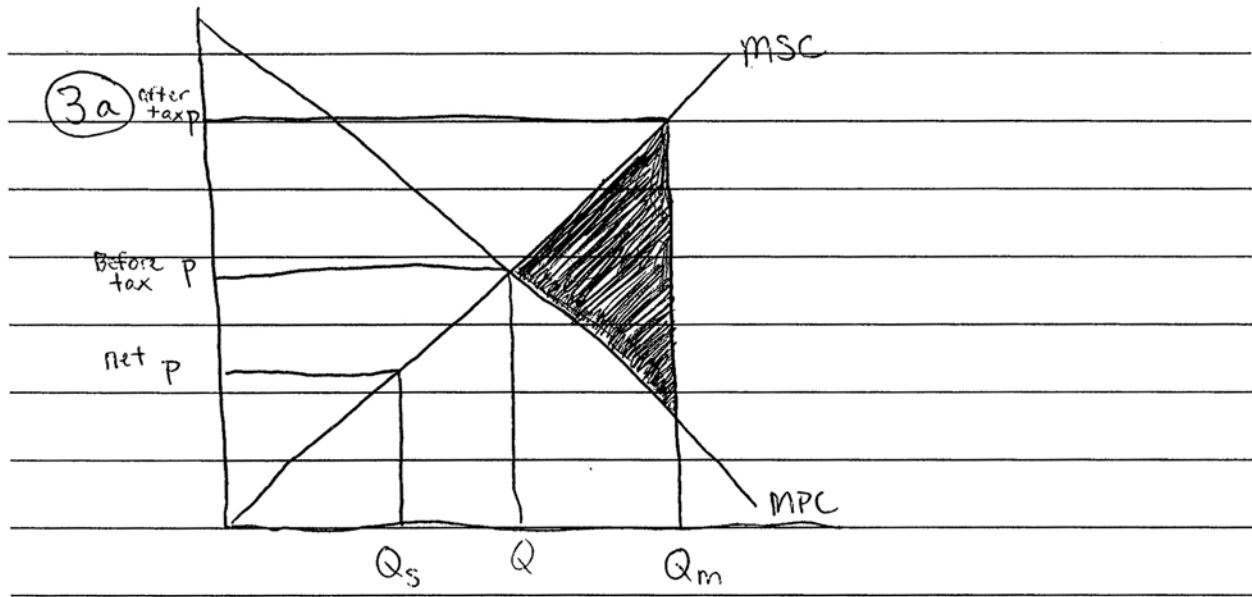


b) The deadweight loss decreases because the tax on the negative externality increases MPC causing the producer of GOOD X to produce an output closer to the socially optimal or allocatively efficient quantity.

Write in the box the number of the question you are answering on this page as it is designated in the exam.

3

3C



<sup>lump sum</sup>  
B. If a tax is imposed it will not affect the Dead weight loss because lump-sum taxes only affect ATC and will not change MC.

**AP<sup>®</sup> MICROECONOMICS**  
**2011 SCORING COMMENTARY**

**Question 3**

**Overview**

This question tested for proficiency with the concepts of allocative efficiency and deadweight loss in a product market with negative externalities. It also determined whether students could reason that lump-sum taxes do not affect marginal cost or marginal revenue — the determinants of the profit-maximizing quantity.

**Sample: 3A**

**Score: 5**

The student answers all parts of the question correctly and so earned all 5 points.

**Sample: 3B**

**Score: 3**

The student lost 1 point in part (a)(iv) for the incorrect shading of deadweight loss, and 1 point in part (b) for an incorrect explanation of the effect on the deadweight loss.

**Sample: 3C**

**Score: 1**

The student earned 1 point in part (b) for correctly explaining that the deadweight loss does not change because marginal cost does not change.