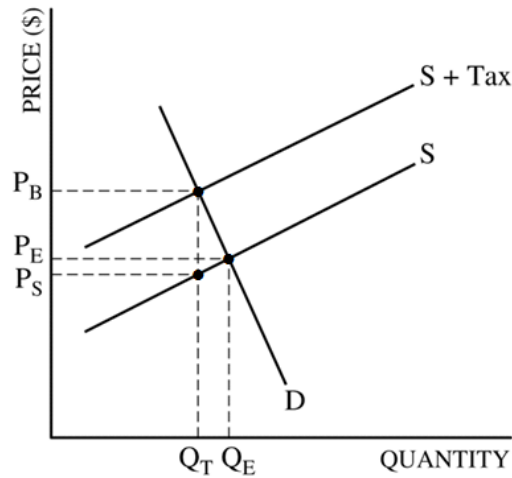


**AP<sup>®</sup> MICROECONOMICS  
2014 SCORING GUIDELINES**

**Question 3**

**6 points** (1 + 3 + 1 + 1)



(a) 1 point:

- One point is earned for drawing a correctly labeled graph of the gasoline market showing the equilibrium price,  $P_E$ , and quantity,  $Q_E$ .

(b) 3 points:

- One point is earned for showing  $P_B$  above  $P_E$ , derived from the D curve at  $Q_T$ .
- One point is earned for showing  $P_S$  below  $P_E$ , derived from the S curve at  $Q_T$ .
- One point is earned for showing  $Q_T$  less than  $Q_E$ .

**Note:** It is not necessary to draw the S + Tax curve; a “tax wedge” approach is acceptable.

(c) 1 point:

- One point is earned for correctly calculating the total tax revenue based on the labeling of the graph.

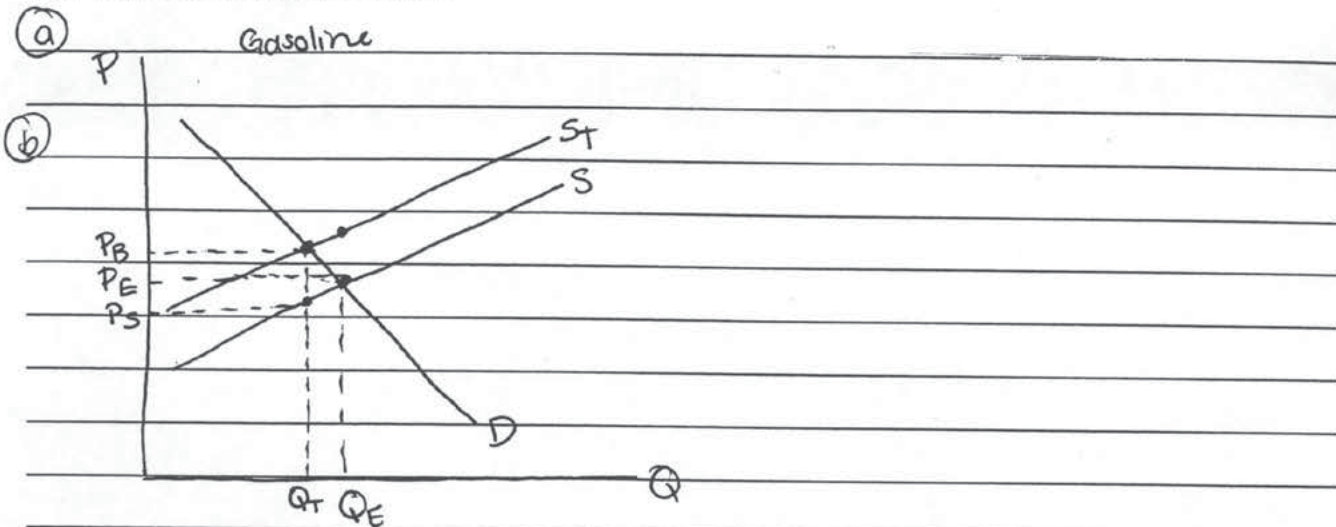
All of the following are acceptable when  $P_B$  and  $P_S$  are correct:

- $(P_B \times Q_T) - (P_S \times Q_T)$
- $(P_B - P_S) \times Q_T$
- $2 \times Q_T$
- $\text{Tax} \times Q_T$

(d) 1 point:

- One point is earned for explaining that the tax burden will fall more on buyers and less on sellers because the demand curve is more inelastic than the supply curve.

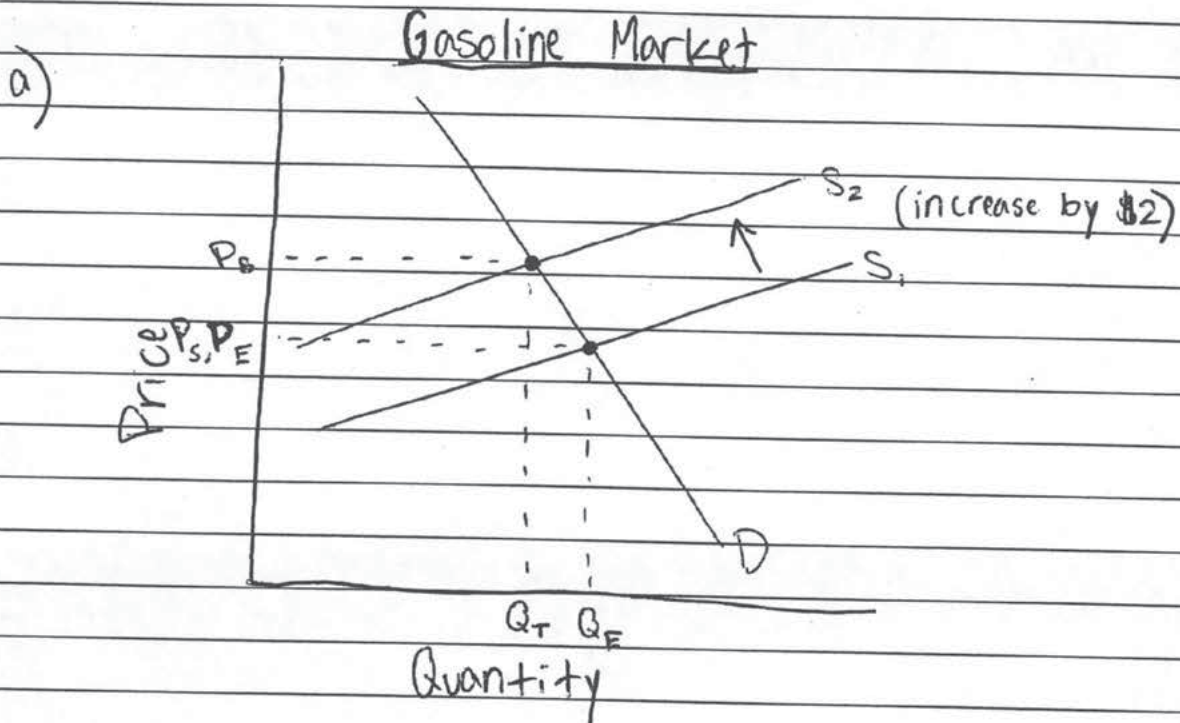
## ANSWER PAGE FOR QUESTION 3



(c) The total tax revenue collected by the gov't can be calculated by finding the ~~area of~~ answer to  $Q_T \times (P_B - P_S)$ . It will give the area of the small rectangle seen on the graph which is the total tax revenue.

(d) Since demand is relatively inelastic and supply is relatively elastic, the tax burden will fall more on buyers and less on sellers. The inelastic demand curve means buyers are less likely to respond to the higher price, so they will bear most of the tax burden, while the elastic ~~to~~ supply curve means sellers will respond ~~at~~ a lot to the higher cost and will bear less of the tax burden.

GO ON TO THE NEXT PAGE.

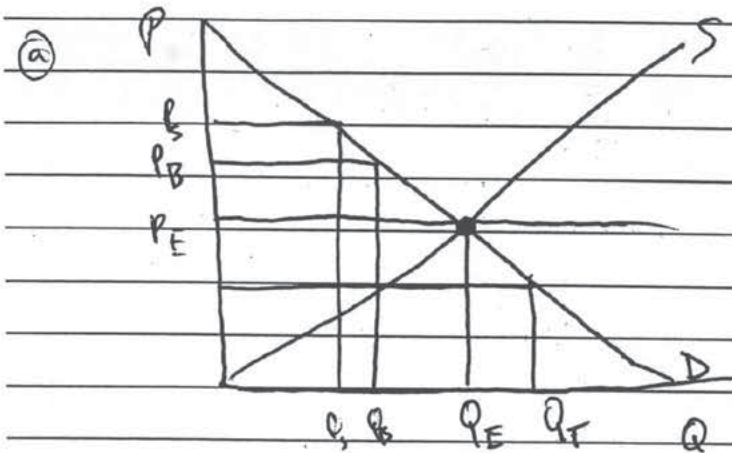


c) The total tax revenue collected by the government would be the area between  $S_1$  and  $S_2$ .

d) The tax burden will fall more on buyers and less on sellers because even though in ~~theory~~ theory the seller would pay the entire tax in reality they would pass off the extra ~~payment~~ payment to the buyers.

GO ON TO THE NEXT PAGE.

## ANSWER PAGE FOR QUESTION 3



(b) Add above equilibrium

(c) more on sellers and less on buyers

GO ON TO THE NEXT PAGE.

**AP<sup>®</sup> MICROECONOMICS**  
**2014 SCORING COMMENTARY**

**Question 3**

**Overview**

This question tested the student's ability to analyze the impact of a per-unit tax in a competitive market. The student was asked to draw a graph and show how the imposition of a per-unit tax impacts the quantity, the price paid by consumers, and the price received by sellers. The student was then asked to explain how the tax revenue collected by the government would be calculated. Finally, the student was asked to explain if the tax burden falls more on sellers or buyers, with given elasticities of supply and demand.

**Sample: 3A**

**Score: 6**

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

**Sample: 3B**

**Score: 3**

The student earned 1 point in part (a) for drawing a correctly labeled graph of the market and for showing the equilibrium price,  $P_E$ , and the equilibrium quantity,  $Q_E$ . The student earned 1 point in part (b)(i) for showing  $P_B$  above  $P_E$  derived from the demand curve at  $Q_T$ . The student earned 1 point in part (b)(iii) for showing  $Q_T$  less than  $Q_E$ .

**Sample: 3C**

**Score: 1**

The student earned 1 point in part (a) for drawing a correctly labeled graph of the market and for showing the equilibrium price,  $P_E$ , and the equilibrium quantity,  $Q_E$ .