3. Assume that gasoline is sold in a competitive market in which demand is relatively inelastic and supply is relatively elastic.

   (a) Draw a correctly labeled graph of the gasoline market. On your graph show the equilibrium price and quantity of gasoline, labeled P_E and Q_E.

   (b) Suppose the government imposes a $2 per unit tax on the producers of gasoline. On your graph from part (a), show each of the following after the tax is imposed.

      (i) The price paid by buyers, labeled P_B

      (ii) The after-tax price received by sellers, labeled P_S

      (iii) The quantity, labeled Q_T

   (c) Using the labeling on your graph, explain how to calculate the total tax revenue collected by the government.

   (d) Will the tax burden fall entirely on buyers, entirely on sellers, more on buyers and less on sellers, more on sellers and less on buyers, or equally on buyers and sellers? Explain.
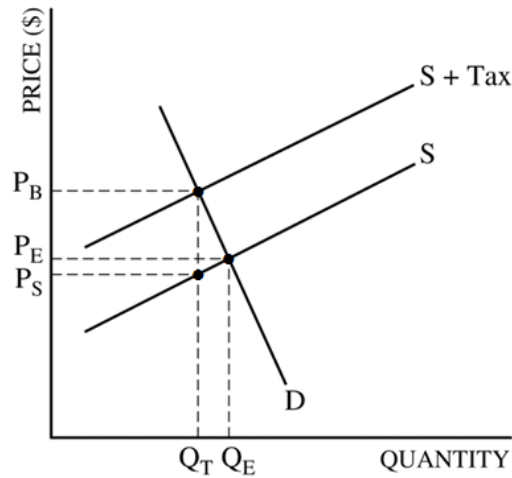
STOP

END OF EXAM

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:
       o $(P_B \times Q_T) - (P_S \times Q_T)$
       o $(P_B - P_S) \times Q_T$
       o $2 \times Q_T$
       o $Tax \times Q_T$

(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.