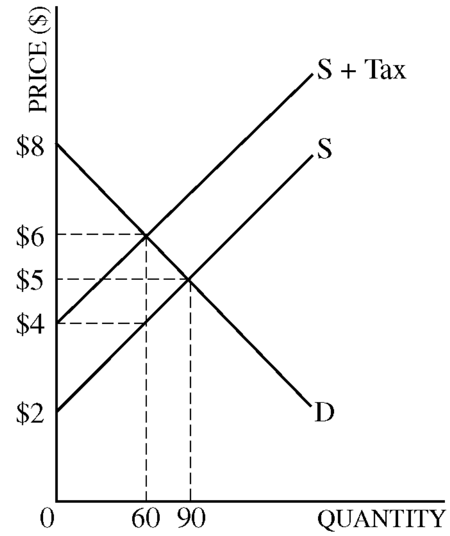

2. The graph above illustrates the market for calculators. S denotes the current supply curve, and D denotes the demand curve.

   (a) Calculate the producer surplus before the tax.

   (b) Now assume a per-unit tax of $2 is imposed whose impact is shown in the graph above.

      (i) Calculate the amount of tax revenue.

      (ii) What is the after-tax price that the sellers now keep?

      (iii) Calculate the producer surplus after the tax.

   (c) Is the demand price elastic, inelastic, or unit elastic between the prices of $5 and $6 ? Explain.

   (d) Assuming no externalities, how does the tax affect allocative efficiency? Explain.

3. Two competing retail firms, Red Shop and Blue Mart, are studying potential locations for new stores in the suburbs of a major city. Each firm must choose between a location north of the city and a location south of the city. The payoff matrix is shown below, with the first entry in each cell indicating Red Shop's daily profit and the second entry indicating Blue Mart's daily profit. Both firms know all of the information in the payoff matrix.

		Blue Mart: North	Blue Mart: South
Red Shop	North	\$900, \$1,800	\$3,000, \$3,500
Red Shop	South	\$5,000, \$4,000	\$1,500, \$1,000

(a) If Red Shop chooses a location south of the city, which location is better for Blue Mart? Explain.

(b) Is choosing a location to the south of the city a dominant strategy for Red Shop? Explain.

(c) If the two firms cooperate in choosing locations, where will each firm locate?

(d) Assume that the south suburb has enacted an incentive package to attract new business. Any firm that locates south of the city will receive a subsidy of \$2,000 per day. Redraw the payoff matrix to include the subsidy.

STOP

END OF EXAM

Question 2

6 points (1 + 3 + 1 + 1)

(a) 1 point:

- One point is earned for the correct calculation of the producer surplus: (1/2) × \$3 × 90 = \$135.

(b) 3 points:

- One point is earned for the correct calculation of the amount of tax revenue: \$2 × 60 = \$120.
- One point is earned for the correct calculation of the after-tax price received by sellers: \$4.
- One point is earned for the correct calculation of the producer surplus: (1/2) × \$2 × 60 = \$60.

(c) 1 point:

- One point is earned for concluding that the demand price is elastic AND showing the correct calculation of the elasticity coefficient using endpoint or midpoint method, or the correct calculation using the total revenue formula.

(d) 1 point:

- One point is earned for concluding that, owing to the tax, the market is no longer allocatively efficient AND that total surplus decreases or the tax creates a dead-weight loss.