Homework Set 2

1. (a) $Q = 0 \text{ at } P = 8 \text{ and } Q = 6 \text{ (million)}$
   (b) $P = 9/10$ and $Q = 2 \text{ (million)}$
   (c) $P = 8.7$ and $Q = 3 \text{ (million)}$

2. (a) Media campaigns shift D-curve to left.
   Price floor raises the price of tobacco as an input and shifts S-curve upward to the left.
   Both tend to reduce Q-consumption.

(b) The price of cigarettes may rise, fall, or not change, depending on the magnitudes of the shifts.

(c) We can interpret the tax as raising the cost of cigarettes, further shifting the S-curve upward or to the right and further reducing Q-consumption.
3. (a) Consumers are now willing to pay $0.50 more at each level of $x$. So we can interpret this subsidy as shifting the D-curve.

Effective P to Consumers ↑ from $P_a$ to $P_d$.
Effective P to Sellers ↓ from $P_a$ to $P_b$.
Quantity sold ↑ from $Q_a$ to $Q_b$.

(b) Consumers Gain
Producers Gain
Government Loses

For efficiency, 3 haircuts should be given.

Businesses Cutting: Sally, Jerry, Monty
Customers Cut: Sally, Jerry, Monty

Maximum Total Surplus = (8 - 2) + (7 - 3) + (5 - 4) = 6 + 4 + 1 = $11

If $P = $4 -
Consumer Surplus = (8 - 4) + (7 - 4) + (5 - 4) = 4 + 3 + 1 = $8
Producer Surplus = (4 - 2) + (4 - 3) + (4 - 4) = 2 + 1 + 0 = $3
Total = $11