University of California, Davis
Department of Economics
ECONOMICS 1A

Spring 2010 L. Jay Helms

Answers to the Second Midterm Exam

Multiple Choice Questions

Question	Version A	Version B
1.	A	A
2.	A	A
3.	C	D
4.	D	C
5.	D	D
6.	D	D
7.	D	D
8.	B	D
9.	D	B
10.	D	D
11.	B	B
12.	B	B
13.	C	C
14.	C	D
15.	D	C
16.	C	C
17.	C	C
18.	C	C
19.	C	C
20.	B	B
21.	B	B
22.	A	A
23.	D	D
24.	B	C
25.	C	B

Short Answer Question

1. Surplus, Taxes and Deadweight Loss

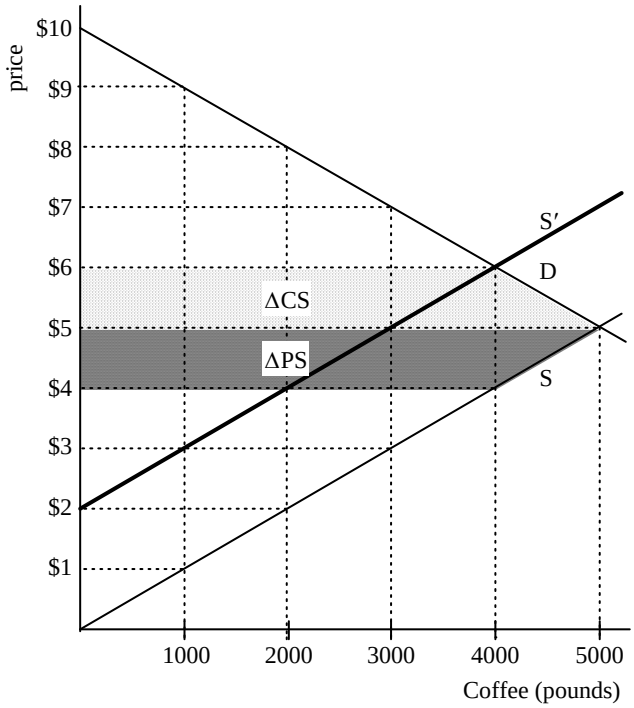
a. The total consumer surplus at the market price of $5.00 is the area between the demand curve and the $5.00 price line. This is

CS = (1/2)*5000*$5 = $12,500.

b. The total producer surplus at the market price of $5.00 is the area between the $5.00 price line and the supply curve. This is

PS = (1/2)*5000*$5 = $12,500.

c. Yes, the market is efficient. At quantities less than the market equilibrium the value of additional units to buyers exceeds the cost to sellers (because the demand curve is above the supply curve), meaning that total surplus could be increased by *increasing* production. At quantities in excess of the market equilibrium the cost to sellers of additional units exceeds their value to buyers (because the supply curve is above the demand curve), meaning that total surplus could be increased by *cutting* production.



d. The supply curve shifts up by the amount of the tax to S′, as shown in the diagram. The demand curve is unchanged.

e. Because the net price received by the sellers falls to \$4, the reduction is producer surplus is as shown.

f. Because the gross price paid by the buyers (the posted price) rises to \$6, the reduction is consumer surplus is as shown.

g. Tax revenue when the tax is \$2 and 4000 units are sold is

\$2*4000=\$8000.

h. The change in consumer surplus is the area of the trapezoid shown in the diagram, or \$4500. The change in producer surplus is \$4500. The deadweight loss is $\Delta CS+\Delta PS$-Tax Revenue = \$1000.

i. The deadweight loss results from the 1000 units which are no longer produced or purchased. This reduces consumer surplus and producer surplus, but the units not sold do not generate any countervailing tax revenue.