

Your name (first name, then last name): \_\_\_\_\_

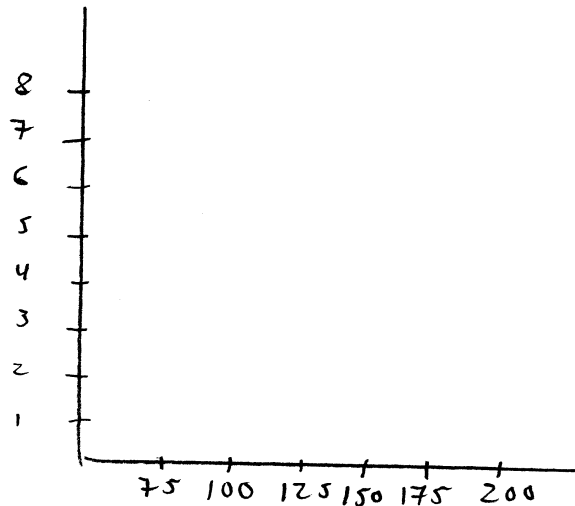
Your TA's name: \_\_\_\_\_

SUNY-Binghamton Economics 160, Principles of Microeconomics, Christopher Hanes  
 Problem set 4 Price controls, excise taxes

Suppose the market for beer in New York is perfectly competitive. The supply and demand schedules for beer are:

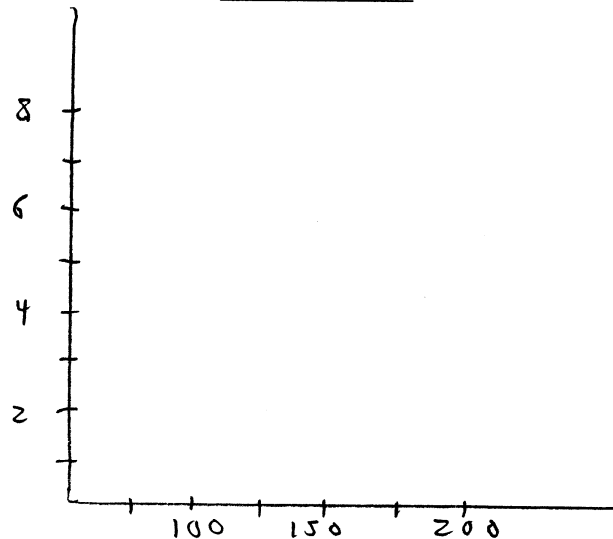
Price	Quantity	
	Supplied	Demanded
\$1	80	200
\$2	90	190
\$3	100	160
\$4	120	150
\$5	125	125
\$6	130	120
\$7	132	112
\$8	140	110

- 1) Suppose drunks persuade the state legislature to impose a price ceiling on beer: the price cannot be higher than \$3.  
 a) Using the numbers, draw the demand curve, supply curve, and the effect of the price ceiling on the graph.



- b) There will be a shortage of beer; the excess demand for beer will be \_\_\_\_\_ units.

- 2) Suppose the state legislature does not impose a price ceiling on beer: instead, it imposes a per-unit excise tax on beer of \$2 per unit, paid by purchasers of beer.  
 a) Using the numbers, draw the demand and supply curves for beer before and after the tax. Clearly mark the equilibrium quantity and price before the tax as  $P_1$ ,  $Q_1$ . Mark the quantity and price after the tax as  $P_2$ ,  $Q_2$ . Also mark the total cost of beer to purchasers including the tax.

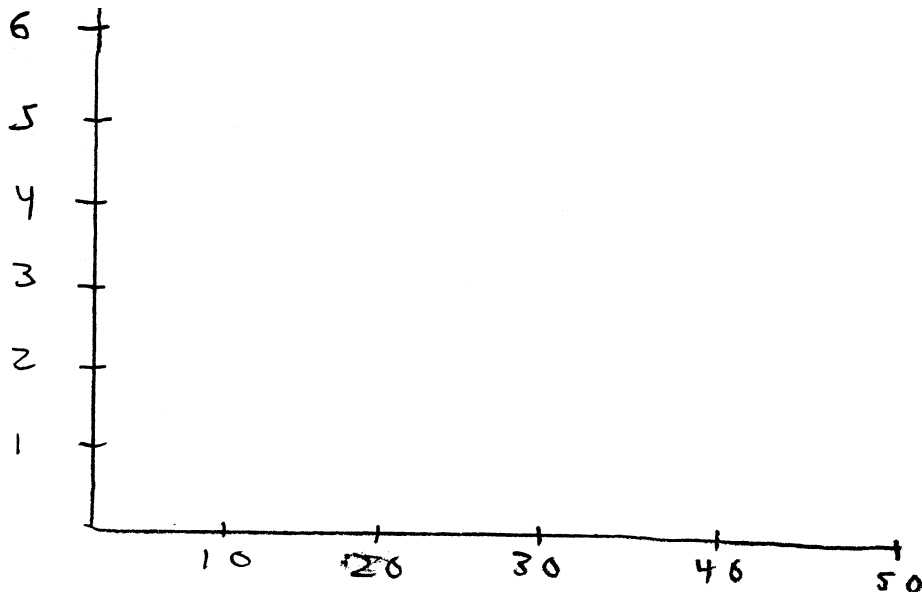


- b) As a result of the tax, the price falls by \$ \_\_\_\_\_. Is this change more than, less than, or same as the amount of the tax? \_\_\_\_\_.

The cost of beer to buyers rises by \$ \_\_\_\_\_. Is this change more than, less than or same as the amount of the tax? \_\_\_\_\_

2) Suppose the market for jelly is perfectly competitive. The equilibrium price of jelly is \$4, and the equilibrium quantity is 30. The government imposes a per-unit tax of \$1, paid by *producers* of jelly. On the two sets of axes below, draw two graphs that show the burden of the tax will fall more heavily on buyers if supply is relatively elastic and demand is relatively inelastic, while the burden of the tax will fall more heavily on sellers if supply is relatively inelastic and demand is relatively elastic. Be precise. Mark the equilibrium quantity and price before the tax as  $P_1$ ,  $Q_1$ . Mark the quantity and price after the tax as  $P_2$ ,  $Q_2$ . Also mark the net payment received by suppliers, net of the tax passed on to the government.

Elastic demand, inelastic supply



Inelastic demand, elastic supply

