**ECN-100 Homework Week 5: Market Controls: Price Ceiling and Price Floor**

1. A price ceiling is implemented in the market for housing in Meth City, where we assume all housing units are identical. Demand is given by the equation P = 1,000 – 0.1 Qd, and the supply is given by the equation P = 200 + 0.3 Qs.

Price Qd Qs

$200 8,000 0

$400 6,000 667

$500 … …

$600 4,000 1,333

$800 … …

$1,000 .. ..

a) Prior to the price ceiling, what is the equilibrium price and quantity?

b) Sketch a graph to show this equilibrium point.

c) Fill in the blank for the above demand and supply schedules given the above equations.

d) When the price ceiling is implemented, a housing shortage develops to 4,000 units. Calculate the price ceiling for the market. (hint: look at the difference between Qd and Qs = shortage=4,000)

e) At this price ceiling, the shortages make people willing to pay higher price, what is this higher price? Show it in your graph.

f) Calculate the Deadweight Loss (Welfare Loss to Society) , and show this in your graph.

2. Price Floor: The table below depicts the US domestic market for milk.

Price (per gal.) Qs (‘000 gals) Qd (‘000 gals)

$1.00 560 960

$1.25 580 880

$1.50 600 800

$1.75 620 720

$2.00 640 640

$2.25 660 560

$2.50 680 480

 a) What is the equilibrium market price and quantity?

b) When government imposed price *floor* of $2.25, what are the quantity supplied and quantity demanded, a shortage or surplus?

c) Sketch a graph to clarify your thoughts; then calculate the Deadweight Loss