1. Go back and do the problem #3 from Problem set 7 (Gus the cab driver). You do not need to turn this in, but you should be able to do these problems for this week’s quiz.

2. The town of Whooville wants to increase the amount of affordable housing in town. Assume that housing is a perfectly competitive industry in Whooville, and that firms have increasing marginal costs. The mayoral candidates propose different policies.

   Candidate Lou wants the city to build a new housing complex. Draw graphs showing the effect of a new complex on the price and quantity of housing in the short run and in the long run.

   Candidate Max wants to give construction companies a tax break and reduce the amount of taxes paid on each apartment unit. Candidate Lou opposes this plan, saying, “It will only line the pockets of the big business housing industry.” Draw graphs showing the effect of a tax break per apartment on the price and quantity of housing in the short run and in the long run.

3. When comparing the markets for prostitution in Nevada and New Jersey, there are two important differences: (1) Prostitutes in New Jersey face higher costs because of government efforts to prosecute them; and (2) customers in New Jersey face higher risks of contracting diseases from prostitutes, because the illegal nature of the business makes reliable information about a prostitute’s health harder to obtain. In answering this question, assume that there are no factors, other than those mentioned above, that would cause the supply and demand of prostitutes to differ between the two states.

   a. Given these facts would you expect the price of prostitution services to be higher or lower in New Jersey compared to Nevada?
   b. Which state would have the higher amount of services consumed?
   c. Draw a demand and supply diagram to support your answer.

4. Water is essential for life, but practically free. Diamonds are inessential for life but very expensive. Does this mean that society values diamonds more than water? Use separate demand and supply diagrams for each good to show why prices are what we observe and to show the total societal value of water and of diamonds.

5. Suppose the demand curve for workers is \( P_D = 125 - \frac{1}{4} Q_D \)
   The supply function for workers is \( P_s = \frac{1}{6} Q_s + 10 \)
   Graph the above functions.

   What is the equilibrium price and the equilibrium traded quantity in the labor market?

   At this equilibrium, what is total economic surplus, producer surplus and consumer surplus?