Due: July 17, 2014

Econ 2030A
Assignment
Answer the following questions

1. (2 **marks**) a. Discuss the law of demand. Graph the following demand- supply equations:

$Q_d = 100 - 0.5P$

$Qs = P$

b. Calculate the equilibrium price and quantity. Find the excess demand, if the price is set at $50.
c. Suppose the government imposes a tax ($2/unit) on the seller. Determine the new equilibrium price and quantity.
d. Calculate the amount of tax revenue, and show it on a diagram.

2. (**2 marks**) Assume the market demand for wheat is as follows:

$Qd = 45 - 2p + 0.3Y + 1p_b$

where Y refers to income and p_b refers to the price of barley.

i. Assuming that wheat and barley both sell for $1, and income is $20, calculate the price elasticity, cross-price elasticity, and income elasticity of demand for wheat.
ii. If income goes up by 50%, what will be the percentage change in quantity demand of wheat?

3. (**2 marks**) Using suitable diagrams and appropriate assumptions, explain why two indifference curves cannot intersect.

4. (**2 marks**) a. For each of the following utility functions, calculate the MRS and explain whether it is diminishing or not:

$$U = 16q_1q_2^3 \cdots\cdots\cdots\cdots\cdots\cdots i$$
$$U = \alpha \ln q_1 + (1-\alpha)\ln q_2 \cdots\cdots ii$$
$$U = 10q_1 + 5q_2 \cdots\cdots\cdots\cdots iii$$
$$U = \min(q_1, q_2) \cdots\cdots\cdots\cdots\cdots iv$$

5. (**2 marks**) Suppose Jason's utility function is as follows: $U = q_1^{0.8}q_2^{0.2}$

i. and his income, Y = $100, and prices are P_1= $20 and P_2= $10; calculate the utility maximizing quantities of q_1 and q_2, and the resulting utility. Show it on a diagram.

ii. if his new income, Y_1= $150, and prices are the same. Calculate the new level of utility and show it on a diagram.

N.B. Submit a stapled copy at the beginning of the class.