Quiz 2 Study Questions

2.1. Give short, concise definitions of the following:
   a. price-consumption curve
   b. income-consumption curve
   c. Engel curve
   d. Giffen good
   e. substitution effect
   f. income effect
   g. consumer surplus
   h. budget constraint
   i. technology
   j. short run
   k. long run
   l. production function

2.2. List all of the assumptions relating to the consumer that are made to construct our model of the consumer's buying behavior. (Do not include the properties required for a perfectly competitive market.)

2.3. Suppose you observe, on several occasions, Bob's buying behavior in a "supermarket" that sells only 2 goods \( x \) and \( y \). Suppose that for each observed basket \((x,y)\) that is purchased, you know the prices of the goods \( p_x \) and \( p_y \), and the amount of money \( m \) Bob had to spend. In other words, you are able to observe Bob's demand functions \( x = h_x(p_x, p_y, m) \) and \( y = h_y(p_x, p_y, m) \).

Construct a model to explain Bob's buying behavior. That is, state the assumptions you make and give an argument to show how the assumptions in your model of Bob's buying behavior are linked to, and therefore explain his demand functions. Do not discuss the properties of those demand functions – only the means by which the demand functions are obtained from preferences and how your model explains Bob's observed demand behavior.

2.4. Explain why utility maximization subject to the budget constraint implies that the consumer purchases that basket of commodities for which
   a. all income is used up.
   b. the marginal rate of substitution equals the price ratio.
   c. the marginal utilities per dollar of the two goods are equal.

If you use a diagram in your answer, make the diagram large and label all curves, axes, and points.

2.5. Explain why, if all prices and the consumer's income were multiplied by any positive number (for example, doubled), there would be no change in his/her utility-maximizing basket.

2.6. Give a geometric example that illustrates how the character of the utility-maximizing basket changes if one or more of the assumptions in answer (2-2) are weakened or discarded. Make your diagram large and label all curves, axes, and points.
2.7. Describe the properties of consumer demand functions obtained in our model of consumer buying behavior.

2.8. Give a geometric construction of consumer demand curves based on preferences (indifference curves), prices, and the consumer's income. Make your diagrams large and label all curves, axes, and points. Explain your construction in words.

2.9. How is the price-consumption curve in our model of consumer buying behavior related to the consumer's demand curve?

2.10. Show geometrically how it is possible in our model of consumer demand to generate an upward sloping consumer demand curve from constrained utility maximization. Make your diagram large and label all curves, axes, and points.

2.11. Draw a diagram and use it to explain how to calculate income and substitution ratios. Make your diagram large and label all curves, axes, and points.

2.12. How are upward sloping consumer demand curves explained in terms of income and substitution ratios?

2.13. What must be true about the relative magnitudes of substitution and income ratios in order to have a normal good? an inferior good? a Giffen good?

2.14. Describe how our model of the consumer's buying behavior is modified to explain the consumer's supply of labor.

2.15a. In our model explaining the consumer's supply of labor, what determines the slope of the consumer's budget line? the values at which the budget line meets the horizontal and vertical axes? the slope of the consumer's labor supply curve?

b. Is it possible for the labor supply curve to be negatively sloped? Why or why not?

2.16. How, and in what time period, does a firm go out of business?

2.17. How is plant or firm size measured?