Quiz One Name: _____
PPA 723, Spring 2009
Professor John McPeak

The total quiz is worth 20 points. Each question is worth 2 points, and each sub question is worth an equal share of the two points.

1) The demand curve is given to you as Q=80-10*p.
    a. Fill out the following table (use the relatively higher price / relatively lower quantity pair in the elasticity calculation).

Price	Quantity	Elasticity
$1.00		----------
$2.00		
$3.00		
$4.00		
$5.00		

    b. Draw this demand curve with price on the y-axis and quantity on the x-axis. Identify the range over which the demand curve is inelastic and over which it is elastic.

2) Taxes. In all cases, describe the original pre-tax equilibrium price quantity pair, and following imposition of the tax the price paid by consumers, the price received by producers, the size of the tax revenue, and the quantity supplied / demanded.
    a. Illustrate on a graph the impact of a specific tax placed on suppliers.

    b. Illustrate on a graph the impact of an ad valorem tax placed on consumers.

3) You are given that p=50-2q is the inverse demand curve and p=10+3*q is the inverse supply curve.

a. What is the equilibrium price quantity pair if the market is perfectly competitive?

b. What will be the size of the shortage (in units of q) if a price ceiling is set at $22?

c. What will be the size of the surplus (in units of q) if a price floor is set at $40?

4) The Museum of Science and Technology is considering raising the price of an annual family membership from $59 to $65. If the number of annual family memberships currently sold is 10,000 and the best available information suggests that the price elasticity of demand for annual family memberships is -0.8, answer the following questions.

a. What is the predicted membership level after the price is raised?

b. Compare total revenue from annual family memberships at a price of $59 with total revenue at a price of $65 given you answer to (a). Which price leads to higher total revenue?

c. If -0.8 is the sort run price elasticity of demand and the long run price elasticity of demand is -2.0, what will be the long run membership level and revenue if the price is raised to $65?

5) I know the price of cocoa is $1.00 per mug and the price of doughnuts is $2.00 per doughnut, the marginal utility of cocoa at a bundle the consumer is considering buying is 2 and the marginal utility of doughnuts is 3. This bundle is on the budget line.

   a. Explain why the bundle the consumer is considering buying is not the optimal bundle.

   b. Is the optimal bundle going to be composed of more cocoa and fewer doughnuts or more doughnuts and less cocoa than the bundle under consideration? Why?

   c. Show on graph that illustrates sample indifference curves and a budget constraint where the consumption bundle described in the introduction to this problem lies in relation to the optimal bundle.

6) If $p_1 = 5$, $p_2 = 10$, and $Y = 150$
   a. Draw the budget constraint.

   b. Show how you can derive the price consumption curve for a given consumer's preferences (drawn as you like so long as they obey the properties of indifference curves discussed in class) from the price consumption curve using the example of $p_1 = 3$ all else constant, and $p_1 = 5$ all else constant.

   c. Show how to derive the individual's demand curve from the graph in (b).

7) Circle whether the statement is true of false:

a. A change in consumer income causes a shift in the demand curve.

TRUE FALSE

b. The slope of the budget line changes if one price changes while income and the other price are held constant.

TRUE FALSE

c. A good for which the price elasticity of supply is inelastic has a larger percent change in quantity than the corresponding percent change in price.

TRUE FALSE

d. The slope of the indifference curve is determined by negative price ratio of the two goods.

TRUE FALSE

e. In a two good world, both goods must be normal to avoid violating the "more is better than less" assumption about preferences.

TRUE FALSE

f. To arrive at the optimal bundle, the consumer adjusts the composition of their consumption bundle to bring their marginal rate of substitution in line with the market determined marginal rate of transformation.

TRUE FALSE

g. A positive income elasticity indicates the good in question is a normal good.

TRUE FALSE

h. In a corner solution of a two commodity world, the consumer consumes zero amount of one of the commodities and allocates all of their income to the other commodity.

TRUE FALSE

8) A food stamp policy is put in place in a state. For our representative consumer impacted by this policy, their initial income of Y is supplemented by a cash value of food stamps of $200. The initial budget constraint is $y = p_f \cdot f + p_o \cdot o$, where f is food, o is all other goods, and the two prices are subscripted by their commodity.

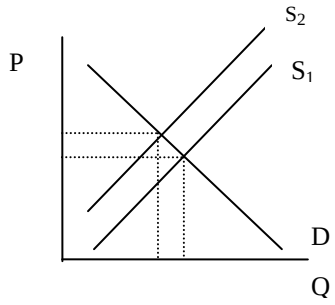
   a. Draw the original budget line and the budget line after the food stamp policy is implemented.

   b. Illustrate on another graph the indifference curves for a consumer **for whom it does matter** whether he is given $200 in cash or $200 worth of food stamps in terms of the optimal bundle he will consume after being given the food stamps.

   c. Explain what happens in your graph to the level of consumption of the other good after the food stamps are given.

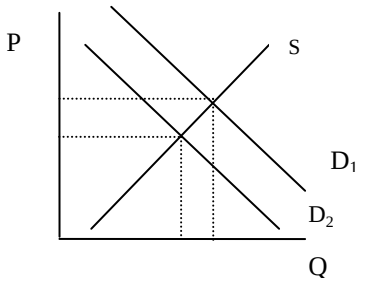
9) The good in question is one hour of babysitting services in the city of Syracuse. The price is the hourly wage earned by babysitters, the q is the total quantity of babysitting hours provided in the market per week. 1 is the current situation, 2 is the shifted curve according to the predictions described below in turn.

   a. It is predicted that the recent economic downturn will reduce the number of entry level jobs for teenagers in the fast food and retail sectors in the Syracuse area, thus increasing the number of teens looking for babysitting jobs. Explain why this graph does or does not illustrate what will happen in the babysitting market if this prediction holds true.



   a. It is predicted that the recent economic downturn will reduce disposable income, thus reducing the number of 'mom and dad' nights out at the movies and fancy dinners. Explain why this graph does or does not illustrate what will happen in the babysitting market if this prediction holds true.

   b.



10) Say that you know that the inverse demand curve for funny hats is: $p=40 - (1/2)*Q_d$ (where p is the price per hat and Q_d is the quantity of funny hats demanded), and the (inverse) supply curve can be expressed in a similar fashion by $p=(1/2)*Q_s - 4$.

a) What is the equilibrium price quantity pair if the market for funny hats is perfectly competitive?

b) If a specific tax of $2.00 is put on producers of funny hats, what will be the new equilibrium quantity, price consumers pay, and price sellers get?

c) What is the incidence of tax on consumers in this case?

d) Would your answer to (c) change if instead of placing the specific tax on the producers we collected it from consumers? Why or why not?