Exam One Name: ________________________

PPA 723, Fall 2010

Professor John McPeak

The total exam 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) Say that you know that the inverse demand curve for umbrellas is: $p=30 – Q_d$ (where p is the price per umbrella and Q_d is the quantity of umbrellas demanded), and the (inverse) supply curve can be expressed in a similar fashion by $p=Q_s -4$.

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

   b) If a specific tax of $2.00 is put on producers of umbrellas, 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?

3) If p_1 =10, p_2=20, and Y=200

   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) using: $p_1 =$ 5 all else constant, the $p_1 =$ 10 line you drew for (a), and $p_1 =$ 20 all else constant.

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

4) The zoo is considering raising the price of an annual family membership from $59 to $69. If the number of annual family memberships sold is 45,000 and the best available information suggests that the price elasticity of demand for annual family memberships is -0.75, 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 $69 given you answer to (a). Which price leads to higher total revenue?

c. If -0.75 is the sort run price elasticity of demand and the long run price elasticity of demand is -2.2, what will be the long run membership level if the price of annual membership is raised to $69?

5) I know the price of one slice of pumpkin pie is $2.00 per unit and the price of one cup of cider is $1.00 per unit. The marginal utility of pie at a bundle the consumer is considering buying is 4 and the marginal utility of cider 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 pie and less cider or less pie and more cider than the bundle under consideration? Why?

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

6) 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 a graph using the budget lines from (a) and sample indifference curves a consumer **who would be better off** getting the $200 in the form of cash rather than in the form of food stamps.

7) Circle whether the statement is true of false:

a. A price decrease for a good that is normal will have a larger total effect than substitution effect.

TRUE FALSE

b. A good for which there is an elastic own price elasticity of demand has a smaller percent change in quantity than the corresponding percent change in price.

TRUE FALSE

c. Indifference curves slope upwards when the consumer views the two goods as substitutes.

TRUE FALSE

d. Marginal utility is higher at low levels of consumption and lower at high levels of consumption for a given commodity.

TRUE FALSE

e. The opportunity set becomes larger when a consumer's income increases and prices are held constant.

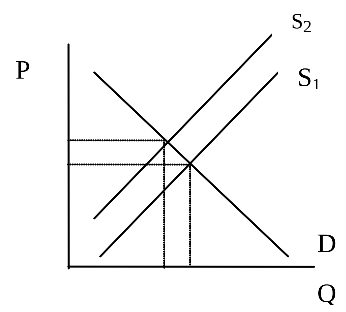
TRUE FALSE

f. The marginal rate of substitution reflects the rate at which the market allows the consumer to transform one commodity into another holding prices and income constant.

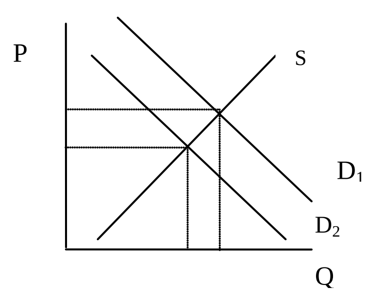
TRUE FALSE

8) The market in question is the Central New York market for a gallon of 2% milk. Is the explanation provided for the illustrated shift consistent with the graph? Why or why not.

a. The price of cookies, a complement to milk, has increased.



b. An advertising campaign that is aimed at increasing milk consumption has the intended effect.



9) Compared to this time last year, the price per pound of candy corn has gone up by 10% and the quantity demanded has decreased by 20%. The American Dental Association (ADA) is claiming credit for this decrease as being due to an ad campaign they are currently running to encourage parents to avoid candy corn this Halloween. The United States Department of Agriculture (USDA) is claiming that the price decrease reflects increases in the prices of sugar and corn syrup over the past year, these being the main ingredients of candy corn.

a. Graph the ADA's argument on a supply and demand graph.

b. Graph USDA's argument on a supply and demand graph.

c. Which explanation is more consistent with the facts given in the introduction to the problem above? Justify your answer.

10) Taxes. In each case, 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 the impact of a specific tax placed on producers.

   b. Illustrate the impact of a specific tax placed on consumers.

   c. Illustrate the impact of an ad valorem tax placed on consumers.