Exam One Name: ________________________
PPA 897, Spring 2011
Professor John McPeak

The total exam is worth 25 points. Each numbered question is worth 2 ½ points, and each sub question within a numbered question is worth an equal share of the 2 ½ points.

1) The demand curve is given to you as Q=120-20*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) Complete the following table.

a) Quantity of Output	Total Cost	Average Cost	Marginal Cost
0	0	------------	---------
1	3		
2	4		
3	9		
4	16		
5	35		
6	66		
7	133		
8	208		

b. If the market price for the output produced is 6 and the market structure is perfectly competitive, what level of output is the profit maximizing level of output for this firm? Why?

c. Is this a short run cost function or a long run function? Why?

3) You are given that $p=100-8*q$ is the inverse demand curve and $p=20+12*q$ is the inverse supply curve.

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

b. Illustrate the effect of a price floor set at $92 on a graph and solve for the size of the difference between the quantity supplied and quantity demanded.

c. Illustrate the effect of a price ceiling set at $44 on a graph and solve for the size of the difference between the quantity supplied and quantity demanded.

4) A local ski area is considering raising the price of an annual pass from $800 to $900. The number of annual passes sold currently at a price of $800 is 1,000. The best available information suggests that the price elasticity of demand for annual passes is -1.1. Answer the following questions.

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

b. Compare total revenue for the ski area at the annual pass fee of $800 and at the price of $900. Which is higher?

c. Will a price decrease for the annual fee to $700 from $800 raise or lower annual revenue? By how much?

5) I know the price of one slice of pizza is $2.00 and the price of one cup of coke is $1.00 per unit. The marginal utility of pizza at a bundle the consumer is considering buying is 1 and the marginal utility of coke is 3. This bundle is on the budget line.

   a. Is the bundle the consumer is considering buying is the optimal bundle? Why or why not?

   b. Show on graph the consumption bundle described in the introduction to this problem and where it lies in relation to the optimal bundle.

6) If $p_1 =$ 20, p_2=30, and Y=300

a. Draw the budget constraint.

b. Draw the budget line if p_1=20 changes to $p_1 =$ 50 all else constant

7) Compared to this time last year, the price per pound of potatoes has gone up by 5% and the quantity demanded has decreased by 8%. The Potato Growers Association of America (PGAA) is claiming this is because input costs have increased this year compared to last, largely due to the recent rise in fertilizer prices. The United States Department of Agriculture (USDA) is claiming that the price increase is a direct result of an ad campaign they have been running encouraging people to eat more potatoes.

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

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

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

8) A food stamp policy is put in place in a state. For our representative consumer impacted by this policy, their initial income of $2,000 is supplemented by a cash value of food stamps of $100. 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. The price of food is $20 per unit, the price of other is $10 per unit.

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

   b. Representative McPeak is outraged to find out recent studies indicate that spending on other goods went up by 12% following the implementation of the food stamp policy. He says this shows that there is mass corruption in the administration of the program and the program should be abolished since it is being misused. Illustrate for him on a graph why increased spending on other goods as a result of the policy could occur for reasons other than corruption.

9) Production functions.

   a. Show a production function with output on the y-axis and the single variable input of labor on the x-axis. Identify on this graph areas that are inefficient, technologically efficient, and not feasible given current technology.

   b. Show an isoquant with capital K on the y-axis and labor L on the x-axis. Identify on this graph areas that are inefficient, technologically efficient, and not feasible given current technology.

10) On a graph of a perfectly competitive market:

a. Identify the areas corresponding to consumer surplus and producer surplus

b. Explain the meaning of producer surplus – why is it a measure of producer benefits from participating in a market?

c. Explain the meaning of consumer surplus – why is it a measure of consumer benefits from participating in a market?