Exam One Name: ________________________

PPA 897, Spring 2012

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=250-30*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	4		
2	7		
3	12		
4	18		
5	25		
6	36		
7	49		
8	64		

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. Draw the average cost and marginal cost curves

d. How do the values of the marginal cost curve explain the shape of the average cost curve in what you drew for c?

3) You are given that p=60-4*q is the inverse demand curve and p=10+6*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 $52 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 $28 on a graph and solve for the size of the difference between the quantity supplied and quantity demanded.

4) Perfectly competitive markets.

a. What are the four assumptions that need to be met for a market to be perfectly competitive?

b. What does it mean for an outcome to be Pareto Optimal?

c. What does it mean if we say an outcome is an example of market failure?

5) I know the price of one muffin is $2.50 and the price of one cup of coffee is $1.50 per unit. The marginal utility of a muffin at a bundle the consumer is considering buying is 5 and the marginal utility of coffee is 5. 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 $p_1 = 10$, $p_2=60$, and $Y=300$

   a. Draw the budget constraint.

   b. Draw the budget line if $p_1=10$ changes to $p_1 = 30$ all else constant

7) Circle whether the statement is true of false:

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

TRUE FALSE

b. Indifference curves cross due to the property of transitivity.

TRUE FALSE

c. The opportunity set becomes larger when the price of one good decreases, all else held equal.

TRUE FALSE

d. The slope of the indifference curve reflects the rate at which the market allows the consumer to transform one commodity into another holding prices and income constant.

TRUE FALSE

e. A monopolist will charge a higher price and supply a lower quantity in comparison to a perfectly competitive market.

TRUE FALSE

f. If there is a negative externality generated in the production of a commodity and it is sold in a perfectly competitive market in the perfectly competitive outcome the price of the good will be less than is socially optimal and quantity produced will be more than is socially optimal.

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 $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. Illustrate the preferences for a person **who would be better off being given the $100 in cash compared to food stamps**.

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. Now draw an example of a monopolist in a market, illustrating the areas corresponding to producer surplus, consumer surplus, and deadweight loss.

   c. Explain the meaning of deadweight loss in b in contrast to a. In what sense is the monopoly market structure imposing deadweight loss on society?