Practice Final Name: _____
PPA 897, Spring 2010
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) Taxes
    a. Show the impact of a specific tax of size τ placed on producers. Note the price paid by consumers, the price received by producers, the equilibrium quantity and the tax revenue, and contrast this to the pre-tax price quantity pair.

    b. Show the impact of a specific tax of size τ placed on consumers. Note the price paid by consumers, the price received by producers, the equilibrium quantity and the tax revenue, and contrast this to the pre-tax price quantity pair.

c. Show the impact of an ad valorem tax rate α placed on consumers. Note the price paid by consumers, the price received by producers, the equilibrium quantity and the tax revenue, and contrast this to the pre-tax price quantity pair.

d. Explain the concept of incidence in reference to your answer to part c of this question.

2) Externalities.
    a. Illustrate on a graph why the perfectly competitive market does not lead to the socially optimal outcome in the presence of a negative externality generated as a result of production.

    b. Illustrate how a Pigovian specific tax of size τ can be used to arrive at the socially optimal outcome.

    c. Explain what the Coasian theorem outlines as a means of resolving negative externality problems.

3) The own price demand elasticity for unleaded gasoline in the Syracuse area is -0.6.

a. Is the own price demand elasticity for cat toys infinitely inelastic, inelastic, perfectly inelastic, elastic, unit elastic, or infinitely elastic?

b. Over the past six months, the price of unleaded gasoline has gone up by 30%. By what percent (and in a positive or negative direction) has quantity changed according to the elasticity given above?

c. Using a supply and demand graph, illustrate and describe in words what you believe will be the impact on the gasoline market in Syracuse over the coming year as a result of the recent oil spill in the Gulf of Mexico (all else equal).

4) The demand curve is given to you as q=150-15*p.

a. Fill out the following table (use the relatively higher price / relatively lower quantity pair for the elasticity calculation)

Price	Quantity	Elasticity
1		----------
2		
3		
4		
5		
6		

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

5) The price per day of private after school care programs for elementary age children has increased by almost 50% from this time last year. Assume each explanation listed below is hypothesized to be the sole cause of this price increase. Which of the following explanations can you rule out, and which can you not rule out.

Explanation	Rule out Not Rule Out (circle)
Consumers' income in this area has gone down significantly since last year.	Rule out Not Rule Out
New rules require all staff at after school programs must have graduate level training in elementary education.	Rule out Not Rule Out
The public schools have opened up an after school program for elementary students that is free for all city residents.	Rule out Not Rule Out
One of the large private after school care programs in the area had to close for a year to renovate their facilities.	Rule out Not Rule Out
Concerns about the safety of students in after school programs has led to a rule requiring all after school programs to install video cameras at all doors and have 1 security guard for every 20 children.	Rule out Not Rule Out
Programs in the state of New York received a large grant for this year from the Gates foundation that is being used to subsidize the costs of after school programs.	Rule out Not Rule Out

6) Circle the correct answer.

Statement	**The statement is (circle the correct answer)**
The expansion path traces out all points that maximize profits.	True False
Consumer surplus is calculated as the area below the demand curve and above the price line.	True False
The slope of an indifference curve is called the marginal rate of substitution.	True False
The income elasticity of demand for an inferior good is a positive number.	True False
MRS=MRT at the optimal bundle for an interior solution.	True False
Increasing the discount rate increases the present value of future costs and benefits.	True False
A monopolist is a single supplier of a good for which there is no close substitute.	True False
The cross price elasticity for a complement is negative.	True False
The free rider problem leads to overprovision of a public good.	True False
As the Gini coefficient for the distribution of income increases, this indicates inequality is decreasing	True False

7) Budget Constraints. There are two goods, food (f) and other (o). The price of food is p_f, the price of other is p_o. Income is Y. Hence the budget constraint is $p_f*f+p_o*o=Y$.
    a. Draw the budget constraint and indifference curves for a consumer showing the optimal bundle with the original budget line and after the consumer has received food stamps of cash value FS.

    b. Draw the budget constraint and indifference curves for a consumer showing the optimal bundle with the original budget line and after the consumer has received a matching grant of size S for each unit of food purchased at price p_f.

    c. Contrast and explain the consumption levels of food and other before and after the matching grant was given in question b.

8) Briefly describe how each of the following can justify government policy response.

a. The adverse selection problem in a health insurance market.

b.The moral hazard problem in an automobile insurance market

c.The information asymmetry, adverse selection problem in a used car market.

d.The free rider problem in public good provision.

9.Benefit cost.
We are worried that climate change will negatively impact yields of rice in the Gambia. Over the next three years (t=0,t=1,t=2), we could invest in research that is aimed at developing new varieties that will be as productive as current varieties after climate change leads to a 2.5 Celsius increase in mean temperature in the Gambia starting in t=3. Without the development of new varieties, this predicted increase in temperature will lead to a reduction in the rice sector's contribution to GNP. The present value net benefits of the "with investment to develop new varieties to maintain current yield levels" over the "without investment to develop new varieties so we have declining yields" has been estimated to be 124 million current USD.

a) Draw the net benefit stream over time with time on the x-axis and net benefits on the y-axis for the "with" and "without" scenarios, being sure to contrast "with" and "without" with "before" and "after".

b) If it will cost us 100 million this year (t=0), 15 million next year (t=1), and 10 million the year after that (t=2) for the research in the "with" scenario and the discount rate is 10%, does a benefit cost test tell us we should or should not invest in the research to develop new varieties?

c. It turns out after we have implemented the project that the estimated present value benefits we used in answering (b) overestimated by 10% (so benefits turn out to be 90% of what you used above). Would have made the same decision as in (b) if we had used the correct benefit estimate?

10) Types of Goods.

a) The categories are public goods, private goods, club goods, and open access goods. What type of good goes in which blank?

	Rival	Non Rival
Exclusion		
Non-Exclusion		

b)Illustrate how to derive the aggregate demand curve for a private good.

c) Illustrate how to derive the aggregate demand curve for a public good.

d) Describe two different methods that can be used in empirical studies to estimate consumers' willingness to pay for the provision of public goods.

Extra question 1:
Voting on the funding for the Syracuse City School District. Syracuse faces a substantial decline in state funds due to the economic crisis. It is voting on how many teachers to cut. It can issue bonds to earn some money to fill the funding gap. We are voting on the budget and bond strategy. Our options are:

Low Budget, No bonds – low cost budget, 500 teacher jobs lost
Medium Budget, Low Bonds – medium cost budget, 250 jobs lost
High Budget, High Bonds– highest budget, no teacher jobs lost

Four groups in society:
Moderates, who prefer Medium, to High, to Low (30%)
Fiscal Conservatives, who prefer Low, then Medium, then High (35%)
People with kids enrolled in the city schools, who prefer High, to Low, to Medium (25%)
Teachers, who prefer High, to Medium, to Low (10%)

Preferences over Budget Levels				
	First Choice	Second Choice	Third Choice	Percent of the vote
Moderates	Medium	High	Low	30%
Fiscal Conservatives	Low	Medium	High	35%
Effective Schoolers	High	Low	Medium	25%
Teachers	High	Medium	Low	10%

For each agenda, describe the voting in each round and the final outcome.

Agenda A: Compare High to Low, then winner takes on Medium

Agenda B: Compare Medium versus Low, winner takes on High

Agenda C: Compare High versus Medium, winner takes on Low

Describe how this illustrates the power of agenda setting in a democracy.