SECOND TEST. ECON 237, SPRING 2015. NAME: _____

Fill in the blanks, and answer in the spaces provided. Show your work.

1. Tiebout.
a) Explain the basic intuition of the Tiebout model, including its most important limiting assumptions and its main results.

b) Use the above to discuss in general terms which fiscal (taxing and spending) decisions tend to be better-handled by smaller jurisdictions, and which fiscal decisions tend to be better-handled by larger jurisdictions.

2. Vertical equity. Consider the tax function $T(Y) = \min\{mC, mY\}$, where T is total tax liability, Y is taxable income, $m \in (0, 1)$ is a marginal rate, and $C > 0$ is a 'cap' on the income that will be taxed.

a) What major tax in the US has a similar structure to this? Give a basic explanation of this tax, e.g. who pays it, what it finances, etc.

b) Is this tax progressive, regressive, or proportional? Answer this question independently for different ranges of income, i.e. above vs. below the cap. Support your answers with algebra.

3. Optimal government size. Suppose that there is a private good, with a market that is efficient in the absence of taxation, and a public good that can only be provided by the government using revenue from a per-unit tax of τ on the private good. Let the marginal benefit and cost for the private good (with quantity x) be as follows:

$$MB(x) = 50 - \frac{1}{10}x \qquad\qquad MC(x) = 20 + \frac{1}{10}x$$

Let the marginal benefit and cost of the public good (with quantity y) be as follows:

$$MB(y) = 50 - \frac{1}{5}y \qquad\qquad MC(y) = 20$$

a) As functions of the tax τ, find the quantity of the private good $x(\tau)$, tax revenue $R(\tau)$, and deadweight loss $D(\tau)$.

b) Find the optimal tax τ^o, supposing that the shadow value of spending a dollar on the public good is $\lambda = 2$. Also, find the resulting tax revenue, $R(\tau^o)$.

c) Using the value of tax revenue that you found, and information about the public goods market above, demonstrate that the shadow value of the last dollar spend on the public good is indeed 2. That is, find the value of y^o that results from spending the revenue $R(\tau^o)$, and use this to calculate the shadow value $\lambda(y^o)$.

d) What is meant by the Laffer curve, and what is its significance in the making of actual tax policy? Sketch the Laffer curve for this example, labeling both axes. What values of the tax τ are Pareto-dominated regardless of the value of public spending?

e) On the left, graph the market for the private good, with the optimal tax, labeling CS, PS, R, and D. On the right, graph the market for the public good, labeling R (government expenditure, equal to revenue by assumption) and TES_y (total economic surplus from the public good).

private good

public good
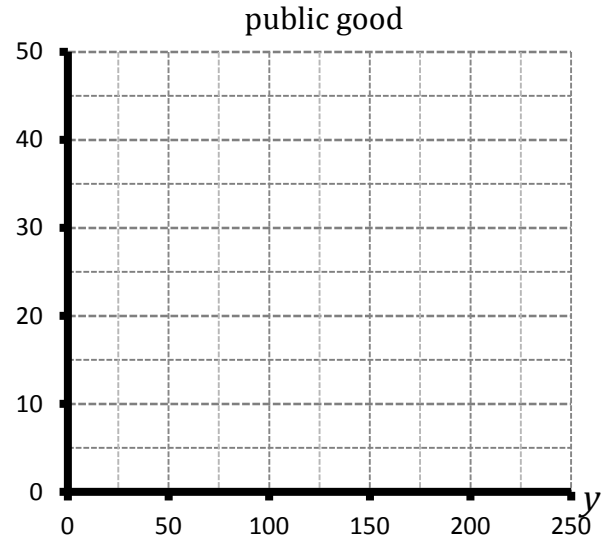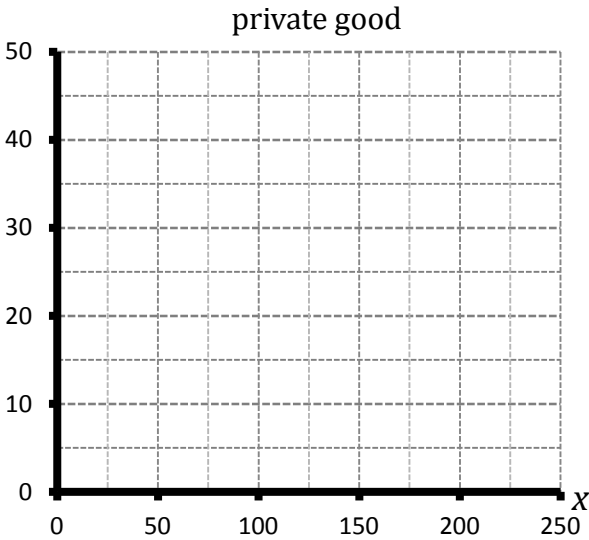
f) Defining λ as the shadow value of the last dollar of government spending, and μ as the shadow cost of the last dollar of tax revenue, give a general argument (i.e. one that applies beyond these specific MB and MC curves) why the optimal quantity of the public good, y, will be greater than zero, but less than the quantity where $MB(y) = MC(y)$.

4. Simple income tax calculation. Suppose the following graduated income tax:

income bracket	marginal rate
$0 - $5,000	10%
$5,000 - $10,000	20%
$10,000 - $20,000	30%
$20,000 and above	40%

If your taxable income is $25,000, how much do you pay? _____

5. Use Mankiw et al (2009) and Diamond and Saez (2011) to do EITHER (a) or (b) below:
a) Give arguments for and against increasing marginal tax rates on the rich
b) Give arguments for and against positive taxation of capital income.

6. Explain why a pure profits tax, if feasible, would be non-distorting, i.e. efficient. Why is a pure profits tax difficult to implement in practice?

7. Given a simple intertemporal choice model with two time periods, what are the substitution effects and income effects of a tax on saving?

9. Explain the basic workings and aims of the earned income tax credit (EITC).