1). In a town of 5 households, each household has the utility function below, where $X$ is private consumption and $G$ is total expenditure on local government services (both are in dollars, they have the same real resource cost):

$$U_i = X_i^{0.9} G^{0.1} \quad i=1,5$$

The incomes of the 5 households are (in ten thousands): 1, 2, 3, 5, 7. What should be the Pareto allocation of resources in this town?

If the town decides its budget by the median voter rule, and pays for services with a flat rate income tax, what will be the level of $G$ chosen? How does this compare with the Pareto level?

Suppose the town were to receive a 25% matching grant from the state. Now what would the level of $G$ chosen be? How does this compare with the other two?

2). The state of Georgia is considering creating a special district to run and operate a metropolitan level police force for the Atlanta MSA. Towns would abandon their own forces and fund the new one in proportion to aggregate town property value.

Carefully review the various arguments for and against moving this service “up the governmental chain” to the metropolitan area. Use generic arguments combined with what you know about law enforcement.

3). The widespread use of minimum-lot-size zoning in US communities has two very different theoretical explanations. Carefully discuss each.

Evaluate this policy, using each theory, from the point of view of economic efficiency only. Do not consider equity issues.

4). Ghettos housing lower income residents exist within the center cities of most major U.S. metropolitan areas. Review the several different theories that have been proposed to explain why lower income residents tend to cluster together into ghetto neighborhoods. In particular:

Distinguish between those theories that involve externalities and those that do not.

What do the externality theories suggest are likely to be market inefficiencies?

What does each theory say about the location of Ghettos within metropolitan areas?