

Place your name on the back of this sheet of paper and nowhere else. Staple your answers face up on the front of this sheet of paper. Failure to follow these directions will cost you 10 points. Your assignment will be typed, except graphs can be drawn by hand and mathematical equations can be done by hand. Failure to type it will cost you 10 points. If you use double-sided printing or print on the back of scrap paper, I will give you one additional point.

- 1) (25 points) Draw the S/D diagram for a product like gasoline which creates a negative externality. Prove that the market will not produce efficiently. What method of solving the problem do economists feel is the best one? Illustrate the effects of that on the graph. Explain why the curve(s) moved as drawn and prove that the optimal point is achieved.
- 2) (10 points each) For each of the following, explain why it is an economic reason for a government. (The government says that one is a non-economic reason, but there is also an economic reason.)
  - A) Provide a legal system.
  - B) Income redistribution.
- 3) (15 points) What are public goods? Why do they require government intervention in the market? Some textbooks list police as a public good. Prove they are not a public good.
- 4) (20 points) Suppose that a project costs \$3000. If completed, it would allow the firm to sell 1 item to each of 500 people at a profit of \$7 per item. There is a negative externality which affects 200 people at a cost of \$4 per person. Should this project be done? Would the market provide it? Would the government provide it? Show all work for each calculation and briefly explain what you did.
- 5) (20 points) Suppose that a project costs \$4000. If completed, it would allow the firm to sell 1 item to each of 300 people at a profit of \$10 per item. There is a positive externality which affects 200 people at a benefit of \$6 per person. Should this project be done? Would the market provide it? Would the government provide it? Show all work for each calculation and briefly explain what you did.