

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 a supply/demand diagram for a gasoline which causes a negative externality. Prove the market will not provide the socially optimal quantity at the optimal price. How do economists say the problem should be solved? Illustrate that on the graph. Explain why the curve(s) moved as drawn and why that causes the optimal output.

2) (15 points) Suppose there is a project which produces an item for a cost of \$30 per unit. The producer will be able to sell 1 item to each of 1000 people for \$33 each. The total production causes a negative externality which hurts 100 people \$40 each. Should this project be done? Would the market provide it? Would the government provide it? Show all calculations and explain how you reached each conclusion.

3) (15 points) Suppose there is a project which produces an item for a cost of \$40 per unit. The producer will be able to sell 1 item to each of 2000 people for \$43 each. The total production causes a negative externality which hurts 100 people \$40 each. Should this project be done? Would the market provide it? Would the government provide it? Show all calculations and explain how you reached each conclusion.

4) (15 points) Suppose there is a project which produces an item for a cost of \$30 per unit. The producer will be able to sell 1 item to each of 200 people for \$40 each. The total production causes a negative externality which hurts 300 people \$4 each. Should this project be done? Would the market provide it? Would the government provide it? Show all calculations and explain how you reached each conclusion.

5) (15 points each) Answer each part in separate paragraphs. Explain what is meant by the phrase and why it is an economic reason for a government to exist. Note, I am looking for an economic reason. The book says that one of them is not an economic reason, but it is also an economic reason.

A) Public goods

B) Income redistribution