

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) (15 points) Suppose a person was facing the following tax brackets. If they earned \$50,000 per year, then what are their marginal tax rate, total taxes paid, and average tax rate? Show all work and if there is no work, then explain how you got your answer.

bracket	rate
\$0 - \$10,000	15%
\$10,000 - \$20,000	20%
\$20,000 - \$30,000	25%
> \$30,000	30%

2) (15 points) Explain the economic reason why increasing a tax rate could result in less tax revenue. Supplement your answer with a mathematical example. Explain how your example proves your point.

3) Answer the three parts in separate paragraphs. For Parts B & C, assume we want to save Social Security.

A) (10 points) What is the long-term problem facing Social Security? What are the two long-term trends which mean the problem will get worse for the next decade? State how they will make the problem worse.

B) (20 points) One proposal to reduce the problem with Social Security is to raise the retirement age. How would that reduce the problem? Should this be part of a package to save Social Security? Explain your logic.

C) (20 points) One proposal to reduce the problem with Social Security is to raise the Social Security tax. How would that reduce the problem? Should this be part of a package to save Social Security? Explain your logic.

4) (20 points) Suppose that at a price of \$1.00/gallon, people buy 800 gallons of gasoline. At a price of \$3.00/gallon, people buy 200 gallons. (I realize these numbers are not realistic.) Calculate the elasticity of demand using the point formula and the arc formula. Show all work. What do those numbers tell you? State how you know that.