

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) To retire and keep your standard of living, you need to save 20 times your annual income. Suppose your retirement fund earns 6% interest and if you earn \$50,000/year. If you save for 40 years, you need to save \$502.14/month. If you save for 30 years, you need to save \$1070.05/month. There are two reasons why the extra 10 years greatly reduces how much you have to save. What are the two reasons? Explain your logic. (Note that this means you should start saving for retirement today.)
- 2) (10 points) Explain how enforcing property rights helps an economy to grow.
- 3) (15 points) Some people have proposed that we make patents last longer. This will have both a good effect on the growth of the economy and a bad effect on the growth of the economy. Explain both effects.
- 4) (25 points) Draw the  $45^\circ$  diagram, a.k.a. Keynesian Cross. Use it to show the effects of an increase in government spending. Explain why the curve(s) moved as drawn. Given your diagram, what value do you estimate for the size of the government spending multiplier? Explain how you came up with that estimate including all calculations done.
- 5) (20 points) Draw the  $45^\circ$  diagram, a.k.a. Keynesian Cross. Use it to show the effects of a decrease in interest rates. Explain why the curve(s) moved as drawn.
- 6) (15 points) Suppose a person's consumption function is given by  $C = 500 + .8(Y-T)$ . If the person has \$10,000 of disposable income, then how much are their MPC, MPS, APC, and APS? Show all work. If there is no work, then state how you reached the conclusion.