

Place your name on the back of this sheet of paper and nowhere else. Staple your answers on the front of this sheet of paper. Failure to follow these directions will cost you 1 point. Turn in the **Excel file via Moodle with your name on an otherwise blank page**. 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) (20 points each) Illustrate the following events on the LRAS/SRAS/AD diagram. Explain why the curve(s) moved as drawn. What happens to GDP and the price level?

- A) The government decides to spend more.
- B) The price of oil increases.
- C) The population increases.

2) Suppose consumption is given by $.4*Y_t + .35Y_{t-1} - .15Y_{t-2} + 100$. Investment is 20% of this year's GDP. Government spending is \$500. Exports are \$300. Imports are 10% of this year's GDP.

- A) (5 points) Write the equations I described above.
- B) (15 points) Find the current level of GDP as a function of government spending and lagged variables. Show all work.
- C) (10 points) Use Excel to fill in a table which will simulate GDP over a 20-year period and assuming that the previous GDP was \$0 last year and \$0 two years ago. Run the simulation again with a one-time increase in government spending to \$700. Repeat with a permanent increase in government spending to \$700. Show all three simulations on the same sheet.
- D) (5 points) What are the short-run government spending multiplier, the long-run government spending multiplier for a temporary increase in government spending, and the long-run government spending multiplier for a permanent increase in government spending? How did you get them?
- E) (5 points) Graph the path of GDP from year 0 on. What would you call that pattern?