

Do not write your name on the assignment. Write your name only on the back of this sheet of paper and staple your answers on the front of this sheet of paper. Your assignment will be typed, except graphs can be drawn by hand and mathematical equations can be done by hand. Failure to follow these directions will cost you 1 point on the assignment.

- 1) (15 points) Give a mathematical example of how two countries with the same fertility and crude death rates can have different growth rate of population. Explain the reason this can occur.
- 2) (20 points) Draw the diagram of income per capita as a function of population. Explain why it takes that shape.
- 3) (20 points) There are three pre-requisites for decreasing the crude birth rate. One of the requirements is to make it socially acceptable to have fewer children. Why is this important? What can be done to facilitate the change? How would your proposal work?
- 4) (35 points) Draw the three supply and demand for workers in each of the three sectors of the three-sector model. Use these graphs to show what happens if the wage rate in the urban formal sector goes up without the curves in the formal sector changing. In other words, what would happen if the minimum wage in the formal sector was raised. Explain why the curve(s) moved as drawn. One of the diagrams many have an ambiguous movement. Explain why the curve(s) moved as you drew and state the assumptions you made.
- 5) (10 points) Alaska has a lot more men than women. How would that affect the crude birth rate in Alaska. Why would it have that effect? (I realize that Alaska is not a developing country, but the theories still apply.)