

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 and failure to type it will cost you 10 points.

This assignment is due on a Wednesday because there are no classes on Monday 10/16. However, all the future assignments will be due on Mondays.

1) (15 points) Explain how countries could have a fertility rate of 2 children per woman and still have the population grow for a few decades.

2) (20 points) Is it normal for the crude birthrate to decrease before or after the crude death rate decreases? Why is that? What does that say about population control? (Why is *death rate* two words while *birthrate* is one word?)

3) (10 points) Using the approximation method, if a country has a natural rate of increase of 5%, how long will it take to double the population? What if the rate is 2%? What does that say about the chances of the former country developing quickly? (Note, the same principle holds for savings. Therefore, it is very important that you start saving early and get as much of a return as possible.)

4) (15 points) I believe that the *average life expectancy at birth* in Afghanistan is around 44. Does this mean a lot of people die around the age of 44? Explain your logic.

5) (20 points) Suppose the *average life expectancy at age 5* is more than five years greater than the *average life expectancy at birth*. Why would we not expect that? What could explain that?

6) (20 points) Why might too low a population be a problem?