

Answer the following questions in complete sentences, and be sure to show all of your work.

1. Suppose that the population of a certain country is currently 10 million. The growth of this population attributable to an excess of births over deaths is 5% per year. Further, the country is experiencing emigration at the rate of 10,000 people per year.
 - (a) Write the difference equation for this problem
 - (b) Write the solution to the difference equation
 - (c) Use your answer to compute the population at end of year 5.

2. In the previous problem, assume that there are no excess births over deaths.
 - (a) Write the difference equation for this problem
 - (b) Write the solution to the difference equation