1. A population grows so that $P_{n+1} = (1.04)P_n$, where $n$ represents generations; the initial population is $P_0 = 100$.
   a. Compute $P_1$, $P_2$, $P_3$, and the general solution for $P_n$, which is an equation, for this model.
   b. Compute the population after 100 generations.
   c. Rewrite the model equation to have the form of a difference equation, that is, some equation of the form $\Delta P = \text{something in terms of } P_n$, where you may take $\Delta P = P_{n+1} - P_n$.

2. Suppose a population $S(t)$ of skinks is growing over time so that the per capita rate of increase is 0.007/day. Assume that skinks reproduce continuously (at least through the summer). The initial population is $S(0) = 3000$.
   a. Write the model equation that describes this situation.
   d. Show how to get an approximation for the skink population in 20 days using just one step. Then do the same using two steps. (Hint: remember $\Delta S \approx S'\Delta t$; what is $\Delta t$ in each case?)