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1. Suppose that the number of polar weasels in southeast Michigan is increasing at a rate of 4% per year, and that at the last census (in 2000) the population of weasels was 3142. Let p_n be the population of weasels n years after 2000. (3 points)
- Find a formula for p_n .
 - Does p_n converge as $n \rightarrow \infty$?

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2. The polar weasels, concerned about loss of natural habitat, have opened a space station in hopes of colonizing space. On the first and every successive month following completion of the space station, a space capsule piloted by skilled astro-weasel-nauts arrives and releases 12 ft^3 of excess carbon dioxide into the space station. The air filtration systems on the station can remove 95% of excess carbon dioxide in a month. Let C_n be the amount of excess CO_2 in the station at the end of n months. Find a closed-form expression for C_n . (3 points)

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3. Which, if any, of the following series converge? (4 points)

a. $\sum \frac{n+1}{n^2+2n+1}$

b. $\sum \frac{e^n}{e^n+5}$