

Attendance Quiz for Lecture 5 of Dr. Z.'s Dynamical Models in Biology class

Name: (print!)

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1. In a certain species only one-year-olds, two-year-olds, and three-year-olds are fertile. We have

- zero-year-olds can't have babies
- Every 1-year-old female makes 1.5 babies on average
- Every 2-year-old female makes 0.9 babies on average
- Every 3-year-old female makes 0.5 babies on average

We also know

- The probability that a zero-year-old will survive the year is 0.7
- The probability that a one-year-old will survive the year is 0.6
- The probability that a two-year-old will survive the year is 0.4

a. Set up the **Leslie matrix**

b. If right now there are 10 zero-year-olds, 20 one-year-olds, 5 two-year-olds, and 3 three-year-olds, what is the expected number of 2-year-olds after two years?