

Real Quiz 6 of Dr. Z.'s Dynamical Models in Biology class

Name: (print!)

Email: (print!)

1. (5 points) Find the potential steady-states of the second-order recurrence

$$a(n+2) = \frac{1 + 3a(n+1) + 4a(n)}{2 + a(n+1) + 5a(n)} \quad .$$

2. (5 points) Convert the fifth-order recurrence

$$a(n+5) = \frac{1 + 4a(n+4) + 6a(n)}{2 + 4a(n+3) + 5a(n+1)} \quad .$$

to a first-order vector recurrence for the vector:

$$\mathbf{x}(n) = \begin{bmatrix} a(n+4) \\ a(n+3) \\ a(n+2) \\ a(n+1) \\ a(n) \end{bmatrix} \quad .$$