Attendance Quiz for Lecture 4 of Dr. Z.'s Dynamical Models in Biology class

Name: (print!)

Email: (print!)

Use Maple to find the following numbers:

1. $a(200)$, if $a(n)$ is the sequence satisfying the recurrence equation with the given initial conditions:

$$a(n) - 3a(n-1) + 3a(n-2) - a(n-3) = 0 \quad , \quad a(0) = 0 \quad , \quad a(1) = 1 \quad , \quad a(2) = 4 \quad .$$

2. $y(2.1)$ (in decimals) if $y(x)$ is the solution of the differntial equation

$$y^{(4)}(x) - 16y(x) = 0 \quad , \quad y(0) = 1 \quad , \quad y'(0) = 1 \quad , \quad y''(0) = 1 \quad , \quad y'''(0) = 1 \quad .$$

3. The $(1, 2)$ entry of the matrix A^{10} if

$$A = \begin{bmatrix} 1 & 2 \\ 3 & 1 \end{bmatrix}$$