

## Quiz 19

For the Leslie matrix

$$A = \begin{bmatrix} 0 & 25 & 400 \\ .01 & 0 & 0 \\ 0 & .2 & 0 \end{bmatrix}$$

$$\vec{n}(0) = \begin{bmatrix} 100 \\ 10 \\ 3 \end{bmatrix} = B$$

Find  $\vec{n}(65)$  and use this to estimate the stable age distribution

$$\vec{n}(65) = [A]^{65} [B] = \begin{bmatrix} 2626.79 \\ 25.81 \\ 5.07 \end{bmatrix}$$

changing to a percent gives that the stable distribution is about

$$\begin{bmatrix} 98.84\% \\ .97\% \\ .19\% \end{bmatrix}$$