

Quiz 14

Name: Key*You must show your work to get full credit.*

Some types of foxglove are biennial. A population of foxglove growing in a graveyard has its life cycle summarized by the Leslie matrix

$$L = \begin{bmatrix} 0 & 3.3 & 20 \\ 0.1 & 0 & 0 \\ 0 & 0.35 & 0 \end{bmatrix}$$

This year there are 93 seedlings, 11 juveniles, and 3 adult foxgloves.

1. How many in each age group next year?

Number seedlings: 96.3 Number juveniles: 9.3 Number adults: 3.8

2. (a) How many in each age group after 20 years?

Number seedlings: 122.53 Number juveniles: 12.17 Number adults: 4.20

(b) What is the proportion in each age group after 20 years?

Proportion seedlings: .883 Proportion juveniles: .087 Proportion adults: .030

3. (a) How many in each age group after 30 years?

Number seedlings: 137.12 Number juveniles: 13.55 Number adults: 4.69

(b) What is the proportion in each age group after 30 years?

Proportion seedlings: .883 Proportion juveniles: .087 Proportion adults: .030