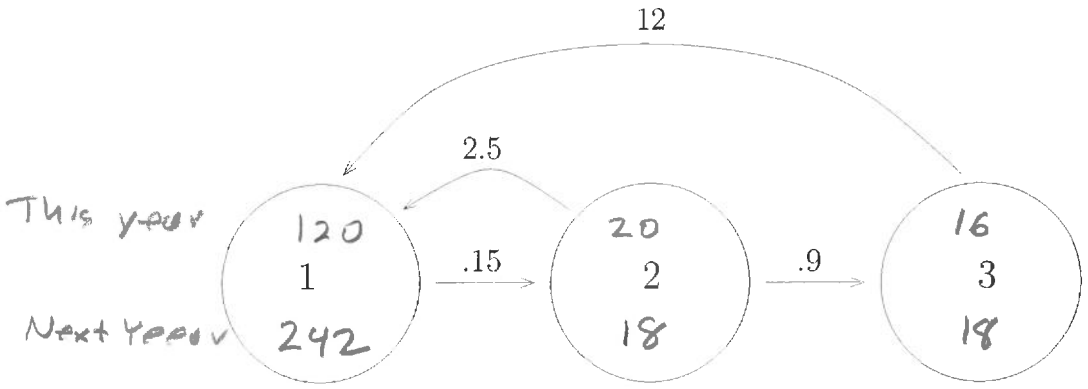
Mathematics 172

Quiz 16 Name: Key

You must show your work to get full credit.

A type of wild parsley has three stages. Stage 1 is seedlings. Stage 2 is juveniles. Stage 3 is adults. A population of this parsley is growing in a meadow. The life history of this population is summarized in the following loop diagram.



1. What does the number .15 represent?
The proportion of seedlings that survive to be juveniles

2. What does the number 12 represent?
The average number of offspring to an adult that live to be seedlings

3. Assume that this year the field has 120 seedlings, 20 juveniles, and 16 adults. Then

$20(2.5)+12(16)=242$ How many seedlings are there next year? 242

$120(.15)=18$ How many juveniles are there next year? 18

$20(.9)=18$ How many adults are there next year? 18

4. With the same data as the last problem:

$18(2.5)+18(12)=261$ How many seedlings are there year after next? 261

$242(.15)=36.3$ How many juveniles are there year after next? 36.3

$18(.9)=16.2$ How many adults are there year after next? 16.2