

Math 4A: Quiz 6
November 24, 2015

Names: _____ Score: _____/10

Circle which section you attend: 8am 4pm 5pm 6pm 7pm

Directions: Open book, open note, open neighbor. You will have the remainder of section to complete this quiz.

Disclaimer: The content and level of difficulty of this quiz are not guaranteed to be in correlation with the midterm nor final examinations in any form.

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1. In this quiz we will be calculating A^{13} where

$$A = \begin{pmatrix} 0 & 0 & -2 \\ 1 & 2 & 1 \\ 1 & 0 & 3 \end{pmatrix}.$$

The steps are are listed below.

Step 1: Find the eigenvalues of A .

Step 2: Find the eigenvectors of A .

Step 3: Use your results from the previous steps form the matrix P of eigenvectors and the diagonal matrix D of eigenvalues. *Caution:* Watch out for the ordering!

Step 4: Find P^{-1} .

Step 5: Show that $A = PDP^{-1}$.

Step 6: Find A^{13} . You do not need to simplify, just write out the matrix.