

## MATH 54 – QUIZ 8

PEYAM RYAN TABRIZIAN

Name: \_\_\_\_\_

**Instructions:** You have 20 minutes to take this quiz, for a total of 10 points. May your luck be diagonalizable!

1. (5 points) Find a basis for the eigenspace  $E_2$  of  $A$  corresponding to the eigenvalue  $\lambda = 2$ , where:

$$A = \begin{bmatrix} 2 & 1 & -1 \\ -2 & 2 & 0 \\ -2 & 0 & 2 \end{bmatrix}$$

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*Date:* Friday, October 17, 2014.

2. (5 points) Find the characteristic polynomial and the eigenvalues of the matrix  $A$ , where:

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