

Name: _____

Due April 23, 2002

Quiz 15

Justify all your work. Partial credit will be given if you show your reasoning.

(1) Let

$$A = \begin{bmatrix} 4 & 0 & -2 \\ 2 & 5 & 4 \\ 0 & 0 & 5 \end{bmatrix}.$$

Diagonalize A , if possible. You may assume the eigenvalues of A are $\lambda = 5, 4$

2

(2) Let

$$A = \begin{bmatrix} 7 & 0 & 0 & 0 \\ 0 & 4 & 0 & 0 \\ 1 & 0 & 2 & 0 \\ 1 & 0 & 0 & 5 \end{bmatrix}.$$

Is A diagonalizable? Explain why or why not.