

Quiz #8B for Math 250:1 & 5

4/6/2011

Name _____ Section (please circle one) **1** **5**

In these problems, A is the 4×4 matrix $\begin{bmatrix} 2 & 0 & 1 & 0 \\ 0 & 2 & 0 & 1 \\ 0 & 0 & -1 & 0 \\ 0 & 0 & 0 & 0 \end{bmatrix}$.

1. (8) a) Find the characteristic polynomial of A and the eigenvalues of A .

b) Find a basis for each eigenspace of A .

2. (2) Can A be diagonalized? Briefly support your assertion with some reasoning.

Answer YES/NO (circle one)