Name: Thursday section time:
Student ID:

Math 20F - Linear Algebra - Spring 2003

Self-assessment Quiz #6.5 — June 5

Try taking the quiz without looking at the answer first.

1. Let A be the matrix $A = \begin{pmatrix} 1 & 1 & 1 \\ 0 & 2 & 2 \\ 0 & 0 & 5 \end{pmatrix}$.

Answer the following questions: What are the eigenvalues of A? For each eigenvalue, what is the the dimension of its eigenspace? Is A diagonalizable? Is A defective?

2. Now let $A = \begin{pmatrix} 1 & 1 & 1 \\ 0 & 2 & 0 \\ -3 & 0 & 5 \end{pmatrix}$. Find all of A's eigenvalues and eigenvectors.