Quiz 8

Name : _____

SID : _____

1. Is $\begin{bmatrix} 1 \\ -2 \\ 2 \end{bmatrix}$ an eigenvector of $\begin{bmatrix} 3 & 6 & 7 \\ 0 & 7 & 2 \\ 6 & 4 & 6 \end{bmatrix}$?
   If so, what is the eigenvalue associated with the eigenvector?

2. Consider the matrix
$$A = \begin{bmatrix} 3 & 3 & 4 \\ 0 & 1 & 0 \\ 2 & 3 & 5 \end{bmatrix}$$

1) Find all eigenvalues. **2)** Find a basis for each eigenspaces.