

Take-Home Quiz 7

(Due at 7:00 p.m. on Fri. October 29, 2010)

Division:

ID#:

Name:

$$\text{Let } A = \begin{bmatrix} 3 & 1 & 0 \\ 1 & 2 & 1 \\ 0 & 1 & 3 \end{bmatrix} \quad \text{and} \quad \mathbf{e} = \begin{bmatrix} 1 \\ 0 \\ 0 \end{bmatrix}.$$

1. Find the characteristic polynomial $p(x)$ and all eigenvalues of A . (Solutions only!)
2. A is invertible. Why? (Use $p(x)$ only.)
3. Find an eigenvector corresponding to each of the eigenvalues of A . (Show work!)

4. For a nonnegative integer n , find $A^n \mathbf{e}$. (Show work!)

Message 欄 (何でもどうぞ) : ICU をどのようにして知りましたか。ICU をより魅力的にするにはどうしたらよいでしょうか。[HP 掲載不可は明記のこと]