**MATH 411 - Summer 1998**
**Homework 5 - Due 06/30, Tuesday**

1- Page 84, problems 28, 29.

2-Find the solution of

$$X' = \mathbf{A}X,$$

$$X(0) = \begin{pmatrix} 1 \\ 1 \\ 1 \\ 1 \\ 1 \end{pmatrix},$$

where

$$\mathbf{A} = \begin{pmatrix} 3 & 0 & 0 & 0 & 0 \\ 0 & -1 & 1 & 0 & 0 \\ 0 & 0 & -1 & 0 & 0 \\ 0 & 0 & 0 & 2 & 1 \\ 0 & 0 & 0 & 0 & 2 \end{pmatrix}.$$

Hint: Use the Jordan Canonical Form.