Math 3130, Spring 2009
Homework #11
Due Wednesday, April 22, 2009

From Bretscher, *Linear Algebra With Applications*:

§7.5: #7, 11, 12, 14, 15, 20, 24, 25 42

§8.1: #8, 9, 10, 14, 15, 29, 31

For each of the following matrices, find an invertible matrix S and a matrix J in Jordan normal form such that $S^{-1}AS = J$.

1. $\begin{bmatrix} 0 & -1 & 1 \\ 2 & -3 & 1 \\ 1 & -1 & -1 \end{bmatrix}$

2. $\begin{bmatrix} 1 & 1 & 1 \\ 2 & 1 & -1 \\ -3 & 2 & 4 \end{bmatrix}$

3. $\begin{bmatrix} 2 & 0 & -1 & 0 \\ 0 & 2 & 1 & 0 \\ 0 & 0 & 2 & 0 \\ 0 & 0 & -1 & 2 \end{bmatrix}$