

Math 33b, Winter 2013, Tonći Antunović - Homework 6

From the textbook solve the problems:

Section 9.1: 4, 6, 8, 10, 12, 16, 18, 20, 22, 24

And also the problems below:

Problem 1. Find the eigenvalue and the eigenvectors for the matrix

$$A = \begin{pmatrix} 9 & 6 \\ -5 & -4 \end{pmatrix}$$

Problem 2. Find the fundamental set of solutions for the system $\mathbf{y}' = A\mathbf{y}$ where

$$A = \begin{pmatrix} 2 & -2 \\ 1 & -1 \end{pmatrix}$$

Problem 3. Find the fundamental set of solutions for the system $\mathbf{y}' = A\mathbf{y}$ where

$$A = \begin{pmatrix} 1 & 0 & \sqrt{2} \\ 1 & 0 & 0 \\ 0 & 0 & 2 \end{pmatrix}$$