

Math 325: Differential Equations

Name: _____

Quiz 3 *Oct. 16, 1996*

1. Transform the initial value problem

$$y''' - ty' + t^3 y = \cos(t), \quad y(0) = 1, \quad y'(0) = 0, \quad y''(0) = -2$$

into a system of first order equations with initial conditions.

2. Find the eigenvalues and corresponding eigenvectors of the matrix

$$\begin{bmatrix} -11 & 5 \\ -30 & 14 \end{bmatrix}$$