

Name (Last, First): _____

Student ID: _____

1. Find an orthogonal matrix P and diagonal matrix D such that $A = PDP^{-1}$ where

$$A = \begin{bmatrix} 2 & 3 \\ 3 & 2 \end{bmatrix}$$

2. Solve the initial value problem

$$y'' + 6y' + 5y = 0, y(0) = 1, y'(0) = 1$$