Quiz 11

Name : _____

SID : _____

CAUTION. ***Minor mistakes can cause much deduction of points.*** So, please read each questions carefully and figure out what they want.

1. Do *orthogonally diagonalization* for

$$A = \begin{bmatrix} 0 & 3 \\ 3 & 8 \end{bmatrix}$$

[Hint] *Orthogonally diagonalize* = Find an orthogonal matrix P and a diagonal matrix D such that $A = PDP^T$ (or $A = PDP^{-1}$).

2. Solve the initial value problem

$$y'' - 5y' - 6y = 0, \quad y(0) = 1,\ y'(0) = -1.$$