Math 2410-10/15 **Quiz #8** **April 16^{th}, 2017**

Note: Partial credit can not be awarded unless there is legible work to assess. Feel free to use the back of this page if you require additional space for your solutions.

1. Consider the following linear system of differential equations.

$$\frac{d\mathbf{Y}}{dt} = \begin{pmatrix} -2 & -1 \\ 1 & -4 \end{pmatrix} \mathbf{Y}$$

   Find the general solution to this system.

2. Find the general solution of the following linear second-order differential equation.

$$\frac{d^2y}{dt^2} - 4\frac{dy}{dt} + 29y = 0$$