MATH 046 020-QUIZ 5, SPRING 2018

Name: _____

1 (6 pts). Consider the second order linear ODE $y'' - 4y = 0$. Show that
   (1) $\{e^{2x}, e^{-2x}\}$ are two solutions of the given equation.
   (2) $\{e^{2x}, e^{-2x}\}$ are linearly independent.
Then find the general solution of the given equation by using the information above.

2 (4 pts). What can one say about the general solution of $y'' + 16y = 0$ if two particular solutions are known to be $y_1 = \sin 4x$ and $y_2 = \cos 4x$?