MATH 2850: TEST 06 (20 points.)

NAME: _____

DUE: Wednesday, February 28th, at the beginning of class.

DIRECTIONS: Show all work.

1. Write the general solution to each of the DE's below:

   (a) $y'' + y' - 6y = 0$

   (b) $y'' + 16y = 0$

(c) $y'' + 9y = 6y'$

(d) $y' = y'' + y$

2. Solve the IVP: $y'' + 9y = 0$ subject to $y(0) = \sqrt{3}$ and $y'(0) = 3$.

   Write your answer in the form $y = A\sin(\omega x + \phi)$.