Math 2A Winter 2010 Feb. 17 Name: _____

Group members: _____

(1) Find the general solution and show work (leave solution in radical form):

$x'(t) = -2y$

$y'(t) = 2x - y$

$$\vec{Y}(t) = \begin{pmatrix} x(t) \\ y(t) \end{pmatrix} =$$

(2) If initial condition is $\vec{Y}(0) = \begin{pmatrix} -1 \\ 1 \end{pmatrix}$, find the solution and show the phase plane

$$\vec{Y}(t) = \begin{pmatrix} x(t) \\ y(t) \end{pmatrix} =$$

Phase plane: