

Name:_____

Score:_____

Instructions: You must show supporting work to receive full and partial credits. No text book, notes, formula sheets allowed.

1(5pts) Find a general solution to the system of equations, $\frac{dx}{dt} = -7x + 4y$, $\frac{dy}{dt} = -10x + 5y$, and sketch a phase portrait of the system.

2(5pts) Find a general solution to the system of equations $\frac{dx}{dt} = -3x + y$, $\frac{dy}{dt} = -x - y$.