Math 325: Differential Equations Name:_____
Quiz 5 *February 23, 2001*

You may use your own calculator. You may not use anything else. You may not pass a calculator to another person.

Show all your work. Erase or cross out any work you do not want graded.

a) Find the general solution of the system of differential equations

$$\mathbf{x}' = \begin{bmatrix} 1 & \sqrt{8} \\ \sqrt{8} & -1 \end{bmatrix} \mathbf{x}.$$

b) How will the solution of the initial value problem

$$\mathbf{x}' = \begin{bmatrix} 1 & \sqrt{8} \\ \sqrt{8} & -1 \end{bmatrix} \mathbf{x}, \qquad \mathbf{x}(0) = \begin{bmatrix} 1 \\ 0 \end{bmatrix}$$

behave as $t \to \infty$?