Quiz 7 Form A, Dec 1, 2017

[10] 1a.) Find the general solution to the following differential equation system.

$$\mathbf{X}' = \begin{bmatrix} 1 & -1 \\ 6 & -4 \end{bmatrix} \mathbf{X}$$

Answer: _____

[3] 1b.) Describe the behavior of the solution as $t \to \infty$: $\begin{bmatrix} x_1 \\ x_2 \end{bmatrix} \to \begin{bmatrix} \end{bmatrix}$

[7] 1c.) Sketch the phase portrait of this system (i.e. plot a few trajectories of the system).