2. [14 points] Find real-valued solutions to each of the following, as indicated. *(Note that minimal partial credit will be given on this problem.)*

a. [7 points] The general solution to $x' = x + 8y$, $y' = 2x + y$.

b. [7 points] The solution to $\mathbf{x}' = \begin{pmatrix} 0 & 4 \\ -1 & 0 \end{pmatrix} \mathbf{x}$, $\mathbf{x}(0) = \begin{pmatrix} -6 \\ 0 \end{pmatrix}$.