7. [15 points] Find explicit, real-valued solutions to each of the following, as indicated.

a. [7 points] Find the general solution to the system $x' = y$, $y' = 2x + y$.

b. [8 points] Solve $\mathbf{x}' = \begin{pmatrix} 0 & 1 \\ -2 & 2 \end{pmatrix} \mathbf{x}$, $\mathbf{x}(0) = \begin{pmatrix} 0 \\ 2 \end{pmatrix}$.