Math 215, Due on Wed., Jan. 25, with Homework #2.

Make the following calculations, where $i = \sqrt{-1}$.

a. Let $A = \begin{pmatrix} 1 + i & 2 \\ -1 & 2 - 3i \\ -i & 1/2 + 4i \end{pmatrix}$ and $B = \begin{pmatrix} 1 - i & -1 \\ 2 & 4 - 2i \end{pmatrix}$. Find the product $AB$.

b. Find the inverse, or show there is no inverse, of the matrix $\begin{pmatrix} 1 & 1 + 2i \\ 1 - 2i & 4 \end{pmatrix}$. 