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 $\begin{pmatrix} 1 & 1+2i \\ 1-2i & 4 \end{pmatrix}$.