(8) 1. Fill in the missing product(s) for two of the next three reactions. Be aware there may be multiple correct answers. Also be aware of details such as solvents, stereochemistry, and regiochemistry.

a. \[
\begin{align*}
&\text{mCPBA} \\
&\text{CH}_2\text{Cl}_2 \\
&\text{O}
\end{align*}
\]

b. \[
\begin{align*}
&\text{Br}_2, \text{CCl}_4 \\
&\text{Br} \\
&\text{Br}
\end{align*}
\]

(17) 2. Give ALL the products for the following reaction (5 pts). If there are stereocenters present (HINT), label the stereocenters in EACH product using the Cahn-Ingold-Prelog convention for R & S (5 pts). What are the relationships between each of the products you have drawn (3 pts)? Take ANY ONE of your drawings and draw another CORRECT, three-dimensional drawing of it (Newman to wedge-and-dash, Fischer to wedge-and-dash, Newman to Fischer, or vice-versa of any of the above) (4 pts). Use the back of this sheet!

\[
\begin{align*}
&\text{Cl}_2, \text{H}_2\text{O} \\
&\text{OH} \\
&R \\
&\text{Cl}
\end{align*}
\]

They are enantiomers
(or chair flip) (or chair flip)