Week 1 Worksheet Blank

Provide the missing reagents or products for the following reaction.

1.)

\[
\begin{array}{c}
\text{1.) } \text{O}_3, \text{CH}_3\text{OH} \\
\text{2.) } \text{H}_2\text{O}_2 \\
\hline
\end{array}
\]

2.)

\[
\begin{array}{c}
\text{HO} \\
\hline
\end{array}
\]
3. Below are two reactions involving the same metal hydride reagent. The top reaction (a) produces an endo alcohol as its major product, while the bottom reaction (b) produces an exo alcohol as its major product. Explain how the same metal hydride reagent produced two different major products.

![Reaction a](image)

![Reaction b](image)

4. Rank the following molecules based on their pKa with 1 being the strongest and 4 being the weakest.
5. Draw a stepwise mechanism for the following hydride reaction.