**Important Concepts:**

**Chapter 17 (20)**
- Understand how to prepare different organometallic reagents and utilize them in synthesis of novel compounds
  - Grignard reagents, Organolithium reagents, and Organocuprate reagents
  - Differentiate between which organometallic reagent to use in reactions involving alpha,beta-unsaturated aldehydes and ketones
  - Understand the concept behind why protecting groups are sometimes necessary in reactions involving organometallic reagents

1. Draw the products of the following reactions.

a. 

![Reaction a](image)

b. 

![Reaction b](image)

c. 

![Reaction c](image)
Week 3 Worksheet

2. Synthesize each compound from cyclohexanol, using any other organic or inorganic compounds.

a. 

\[
\text{CH}_2\text{OH}
\]

b. 

\[
\text{C}_6\text{H}_5
\]

3. Draw a stepwise mechanism for the following reaction.

\[
\begin{align*}
\text{[1] CH}_3\text{MgBr (excess)} & \quad \text{[2] H}_2\text{O} \\
\text{Ketone} & \rightarrow \text{Product}
\end{align*}
\]