3 Points Each. Please mark your answers on the scantron sheet. You may keep this copy.

1. What is the product of the following reaction sequence?

\[
\begin{align*}
\text{Br} & \xrightarrow{\text{NaN}_3} \text{LiAlH}_4; \\
& \text{H}_3\text{O}^+ \\
\end{align*}
\]

\[\text{a) } \text{NH}_2 \text{b) } \text{NH} \text{c) } \text{N}_3 \text{d) } \text{N}_3\]

2. Which of the following is a Secondary Amine?

\[\text{a) } \text{N} \text{H}_2 \text{b) } \text{NH} \text{c) } \text{N} \text{H}_2 \text{d) } \text{NH}_2\]

3. Which of the following would be the STRONGEST BASE?

\[\text{a) } \text{N} \text{H}_2 \text{b) } \text{NH} \text{c) } \text{NH} \text{d) } \text{NH}_2\]

4. What is the product of the following reaction.

\[\text{Excess CH}_3\]

\[\text{a) } \text{N} \text{CH}_3 \text{b) } \text{N} \text{CH}_3 \text{c) } \text{c} \text{d) } \text{N} \text{CH}_3\]

5. If the reaction above is treated with silver oxide after methylation, what is the product?

\[\text{Excess CH}_3\]

\[\text{Then Ag}_2\text{O}\]

\[\text{a) } \text{N} \text{CH}_3 \text{b) } \text{N} \text{CH}_3 \text{c) } \text{c} \text{d) } \text{N} \text{CH}_3\]

6. What is the product of the following reaction?

\[\text{LiAlH}_4\]

\[\text{then } \text{H}_3\text{O}^+\]

\[\text{a) } \text{NH}_2 \text{b) } \text{NH} \text{c) } \text{NH} \text{d) } \text{NH}_2\]

7. What is the product of the following reaction?

\[\text{Li}\]

\[\text{a) } \text{NH}_2 \text{b) } \text{NH} \text{c) } \text{N} \text{Li} \text{d) } \text{NH}_2\]