1. Using the chemical equation below, determine how many grams of oxygen would be required to react with 2.4 moles of aluminum.

\[ 4 \text{ Al} + 3 \text{ O}_2 \rightarrow 2 \text{ Al}_2\text{O}_3 \]

2. Using the chemical equation below, determine how many pounds of water will be produced by the combustion of 2 kg of B\textsubscript{4}H\textsubscript{10}.

\[ 2 \text{ B}_4\text{H}_10 + 11 \text{ O}_2 \rightarrow 4 \text{ B}_2\text{O}_3 + 10 \text{ H}_2\text{O} \]

3. Using the equation below, determine how many grams of CO\textsubscript{2} will be produced from the reaction of 20 g of oxygen. If 14.8 g of CO\textsubscript{2} are produced in the reaction, what is the percent yield?

\[ 2 \text{ C}_8\text{H}_18 + 25 \text{ O}_2 \rightarrow 16 \text{ CO}_2 + 18 \text{ H}_2\text{O} \]