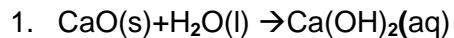


## Synthesis and Decomposition Reaction - Answers

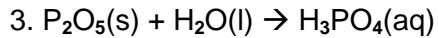
Identify the following reactions as synthesis or decomposition.



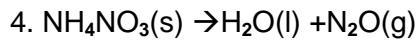
Type of reaction: synthesis



Type of reaction: decomposition



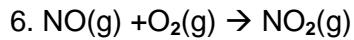
Type of reaction: synthesis



Type of reaction: decomposition



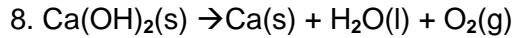
Type of reaction: decomposition



Type of reaction: synthesis



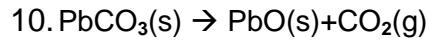
Type of reaction: decomposition



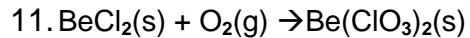
Type of reaction: decomposition



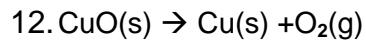
Type of reaction: decomposition



Type of reaction: decomposition



Type of reaction: synthesis



Type of reaction: decomposition

*Predict the products for the following synthesis and decomposition reactions.*

**Synthesis:**

1.  $\text{Mg} + \text{Cl}_2 \rightarrow \text{MgCl}_2$
2.  $4 \text{ Li} + \text{O}_2 \rightarrow 2 \text{ Li}_2\text{O}$
3.  $\text{BeO} + \text{H}_2\text{O} \rightarrow \text{Be(OH)}_2$
4.  $2 \text{ Zn} + \text{O}_2 \rightarrow 2 \text{ ZnO}$
5.  $\text{SO}_3 + \text{H}_2\text{O} \rightarrow \text{H}_2\text{SO}_4$
6.  $2 \text{ Fr} + \text{Br}_2 \rightarrow 2 \text{ FrBr}$
7.  $2 \text{ NaO} + \text{H}_2\text{O} \rightarrow 2 \text{ NaOH}$
8.  $4 \text{ P} + 3 \text{ O}_2 \rightarrow 2 \text{ P}_2\text{O}_3$
9.  $\text{ClO}_2 + \text{H}_2\text{O} \rightarrow \text{H}_2\text{ClO}_3$
10.  $\text{Sr} + \text{I}_2 \rightarrow \text{SrI}_2$

**Decomposition:**

11.  $2 \text{ KF} \rightarrow 2 \text{ K} + \text{F}_{2(\text{g})}$
12.  $2 \text{ NO}_4 \rightarrow \text{N}_{2(\text{g})} + 4 \text{ O}_{2(\text{g})}$
13.  $\text{CuO} \rightarrow \text{Cu}_{(\text{s})} + \text{O}_{2(\text{g})}$
14.  $\text{H}_2\text{CO}_3 \rightarrow \text{H}_2\text{O}_{(\text{l})} + \text{CO}_{2(\text{g})}$
15.  $\text{PbS}_2 \rightarrow \text{Pb}_{(\text{s})} + 2 \text{ S}_{(\text{s})}$