## **Types of Reactions and Predicting Products**

- Given an equation, you should be able to tell what kind of reaction it is.
- Predict the products of a reaction when given the reactants.

## Section 1: Identify the type of reaction

For the following reactions, indicate whether the following are examples of synthesis, decomposition, combustion, single displacement, double displacement, or acid-base reactions:

- Na<sub>3</sub>PO<sub>4</sub> + 3 KOH → 3 NaOH + K<sub>3</sub>PO<sub>4</sub>
- 2)  $MgCl_2 + Li_2CO_3 \rightarrow MgCO_3 + 2 LiCl$
- 3) C<sub>8</sub>H<sub>12</sub> + 9 O<sub>2</sub> → 6 CO<sub>2</sub> + 6 H<sub>2</sub>O \_\_\_\_\_\_
- 4) Pb + FeSO<sub>4</sub> → PbSO<sub>4</sub> + Fe \_\_\_\_\_\_
- 5) CaCO<sub>3</sub> → CaO + CO<sub>2</sub> \_\_\_\_\_
- 6) P<sub>4</sub> + 3 O<sub>2</sub> → 2 P<sub>2</sub>O<sub>3</sub>
- 7) 2 RbNO<sub>3</sub> + BeF<sub>2</sub> → Be(NO<sub>3</sub>)<sub>2</sub> + 2 RbF \_\_\_\_\_\_
- 8) 2 AgNO<sub>3</sub> + Cu → Cu(NO<sub>3</sub>)<sub>2</sub> + 2 Ag \_\_\_\_\_
- 9) C<sub>3</sub>H<sub>6</sub>O + 4 O<sub>2</sub> → 3 CO<sub>2</sub> + 3 H<sub>2</sub>O \_\_\_\_\_
- 10)  $2 C_5H_5 + Fe \rightarrow Fe(C_5H_5)_2$
- 11) SeCl<sub>6</sub> + O<sub>2</sub> → SeO<sub>2</sub> + 3Cl<sub>2</sub>
- 12) 2 Mgl<sub>2</sub> + Mn(SO<sub>3</sub>)<sub>2</sub> → 2 MgSO<sub>3</sub> + Mnl<sub>4</sub> \_\_\_\_\_
- 13) O<sub>3</sub> → O' + O<sub>2</sub> \_\_\_\_\_
- 14) 2 NO<sub>2</sub> → 2 O<sub>2</sub> + N<sub>2</sub>

Predict the products of the following reactions:

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11)	N <sub>2</sub> +	$O_2$	$\rightarrow$
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