

Name

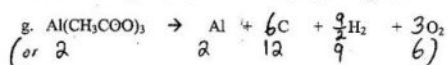
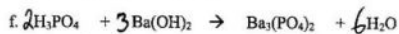
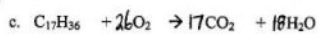
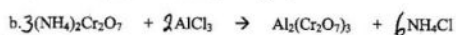
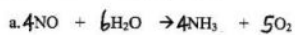
KEY

Date

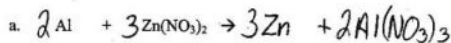
## Chemistry 11

## Review of Unit 6

1. Balance the following equations:

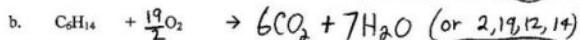


2. Complete, balance and classify the following equations as synthesis, decomposition, single replacement, double replacement, neutralization or combustion.



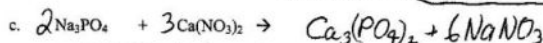
Reaction Type

SR



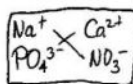
Reaction Type

Combustion

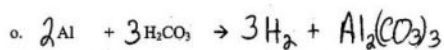


Reaction Type

DR

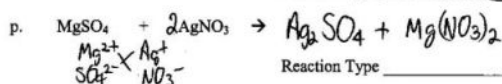


- d.  $\text{Mg}(\text{H}_2\text{PO}_4)_2 \rightarrow \text{Mg} + 2\text{H}_2 + 2\text{P} + 4\text{O}_2$   
 Reaction Type decomposition
- e.  $\text{Cl}_2 + 2\text{KI} \rightarrow \text{I}_2 + 2\text{KCl}$   
 Reaction Type SR
- f.  $2\text{Al} + 3\text{F}_2 \rightarrow 2\text{AlF}_3$   
 Reaction Type synthesis
- g.  $\text{Zn} + \text{Cu}(\text{ClO}_3)_2 \rightarrow \text{Cu} + \text{Zn}(\text{ClO}_3)_2$   
 Reaction Type SR
- h.  $2\text{Co}(\text{NO}_3)_3 + 3(\text{NH}_4)_2\text{C}_2\text{O}_4 \rightarrow \text{Co}_2(\text{C}_2\text{O}_4)_3 + 6\text{NH}_4\text{NO}_3$   
 $\begin{matrix} \text{Co}^{3+} & \times & \text{NH}_4^+ \\ \text{NO}_3^- & & \text{C}_2\text{O}_4^{2-} \end{matrix}$   
 Reaction Type DR
- i.  $\text{C}_{12}\text{H}_{22}\text{OH} + 18\text{O}_2 \rightarrow 12\text{CO}_2 + 13\text{H}_2\text{O}$   
 Reaction Type Combustion
- j.  $\text{Sr}(\text{OH})_2 + 2\text{HNO}_3 \rightarrow 2\text{H}_2\text{O} + \text{Sr}(\text{NO}_3)_2$   
 Reaction Type neutralization or DR
- k.  $4\text{V} + 5\text{O}_2 \rightarrow 2\text{V}_2\text{O}_5$  (or  $2, \frac{5}{2}, 1$ )  
 (Assume combining capacity of V is 5+)  
 Reaction Type Synthesis
- l.  $\text{Rb}_3\text{AsO}_4 \rightarrow 3\text{Rb} + \text{As} + 2\text{O}_2$   
 Reaction Type decomposition
- m.  $3\text{CsOH} + \text{H}_3\text{PO}_4 \rightarrow 3\text{H}_2\text{O} + \text{Cs}_3\text{PO}_4$   
 Reaction Type neutralization or DR
- n.  $3\text{Ni}(\text{NO}_3)_2 + 2(\text{NH}_4)_3\text{PO}_4 \rightarrow \text{Ni}_3(\text{PO}_4)_2 + 6\text{NH}_4\text{NO}_3$   
 $\begin{matrix} \text{Ni}^{2+} & \times & \text{NH}_4^+ \\ \text{NO}_3^- & & \text{PO}_4^{3-} \end{matrix}$   
 Reaction Type DR



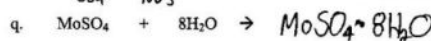
Reaction Type

SR



Reaction Type

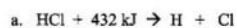
DR



Reaction Type

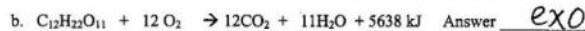
synthesis (hydration)

3. State whether each of the following are *exothermic* or *endothermic*.



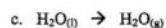
Answer

endo



Answer

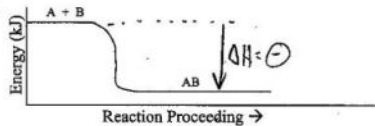
exo



Answer

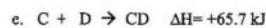
endo

d.



Answer

exo



Answer

endo



Answer

exo

4. In an *exothermic* reaction, the surroundings get (warmer/cooler) warmer.

5. Define *enthalpy*

stored chemical energy in a substance