| AP  | Chen  | nistry |
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| Hes | s' La | W      |

| Name |  |      |
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1. Find  $\triangle H$  for the following reaction:  $CS_2(l) + 2H_2O(l) \longrightarrow CO_2(g) + 2H_2S(g)$ , using the equations below.

$$\begin{array}{c} (\text{H}_{2}S(g) + 3/2 \cdot O_{2}(g) \longrightarrow \text{H}_{2}O(f) + SO_{2}(g) & \Delta H = -563 \text{ kJ} \longrightarrow + - \\ \text{CS}_{2}(f) + 3 \circ O_{2}(g) \longrightarrow \text{CO}_{2}(g) + 2 \cdot SO_{2}(g) & \Delta H = -1075 \text{ kJ} \\ \text{2} + 2 \cdot O_{2} \longrightarrow \text{2} + 2 \cdot O_{2} \longrightarrow \text{2} + 2 \cdot O_{2} & \Delta H = 1126 \text{ KJ} \\ \text{CS}_{2}(f) + 2 \cdot H_{2} \cdot O(f) \longrightarrow \text{CO}_{2}(g) + 2 \cdot H_{2} \cdot S(g) & \Delta H = 5 \text{ for } f = 126 \text{ KJ} \\ \text{CS}_{2}(f) + 2 \cdot H_{2} \cdot O(f) \longrightarrow \text{CO}_{2}(g) + 2 \cdot H_{2} \cdot S(g) & \Delta H = 5 \text{ for } f = 126 \text{ KJ} \\ \text{CS}_{2}(f) + 2 \cdot H_{2} \cdot O(f) \longrightarrow \text{CO}_{2}(g) + 2 \cdot H_{2} \cdot S(g) & \Delta H = 5 \text{ for } f = 126 \text{ KJ} \\ \text{CS}_{2}(f) + 2 \cdot H_{2} \cdot O(f) \longrightarrow \text{CO}_{2}(g) + 2 \cdot H_{2} \cdot S(g) & \Delta H = 5 \text{ for } f = 126 \text$$

2. Find  $\triangle H$  for the following equation:  $2 S(s) + 2 OF_2(g) \longrightarrow SO_2(g) + SF_4(g)$ , using the equations below.

3. Calculate  $\Delta H$  for the following reaction:  $C_2H_4(g) + 6F_2(g) \longrightarrow 2CF_4(g) + 4HF(g)$ , using the equations below.

For each of the following reactions, find  $\Delta H$  for the reaction by using the  $\Delta H_f^{\circ}$  values. Use the Heat of Formation table on Schoology.

1. 
$$CaO(s) + H_2O(l) \longrightarrow Ca(OH)_2(s)$$
  
-634.9 -285.8 -985.2

2. 
$$2 C_2H_6(g) + 7 O_2(g) \longrightarrow 4 CO_2(g) + 6 H_2O(g)$$
  
 $-84 \cap O \longrightarrow -393.5 -241.8$ 

3. 
$$2 \text{ KCI}(s) + 3 O_2(g) \longrightarrow 2 \text{ KCIO}_3(s)$$
  
-436.  $\bigcirc$ 

4. 
$$NH_4Cl(s) \longrightarrow NH_3(g) + HCl(g)$$

$$-45.9 -92.3$$

5. 
$$3 H_2(g) + Fe_2O_3(s) \longrightarrow 3 H_2O(l) + 2 Fe(s)$$