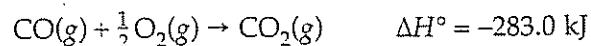
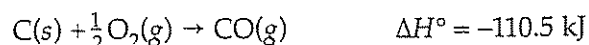


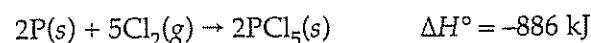
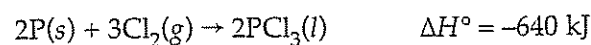
## 12-3 Practice Problems

1. From the following enthalpy changes,



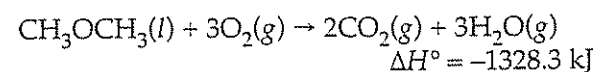
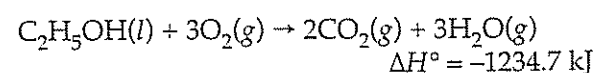
calculate the value of  $\Delta H^\circ$  for the reaction  
 $\text{C}(s) + \text{O}_2(g) \rightarrow \text{CO}_2(g)$ .

2. From the following enthalpy changes,



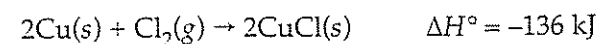
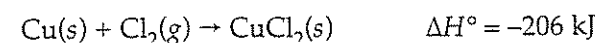
calculate the value of  $\Delta H^\circ$  for the reaction  
 $\text{PCl}_3(l) + \text{Cl}_2(g) \rightarrow \text{PCl}_5(s)$ .

3. From the following enthalpy changes,



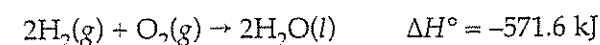
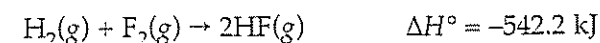
calculate the value of  $\Delta H^\circ$  for the reaction  
 $\text{C}_2\text{H}_5\text{OH}(l) \rightarrow \text{CH}_3\text{OCH}_3(l)$ .

4. From the following enthalpy changes,



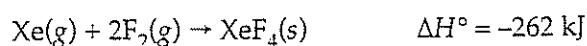
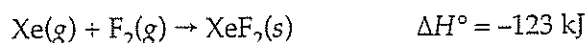
calculate the value of  $\Delta H^\circ$  for the reaction  
 $\text{CuCl}_2(s) + \text{Cu}(s) \rightarrow 2\text{CuCl}(s)$ .

5. From the following enthalpy changes,



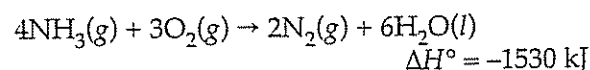
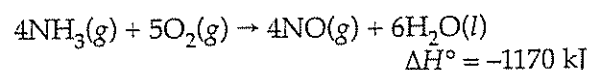
calculate the value of  $\Delta H^\circ$  for the reaction  
 $2\text{F}_2(g) + 2\text{H}_2\text{O}(l) \rightarrow 4\text{HF}(g) + \text{O}_2(g)$ .

6. From the following enthalpy changes,



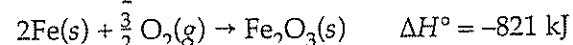
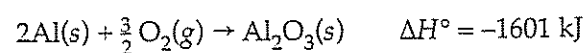
calculate the value of  $\Delta H^\circ$  for the reaction  
 $\text{XeF}_2(s) + \text{F}_2(g) \rightarrow \text{XeF}_4(s)$ .

7. From the following enthalpy changes,



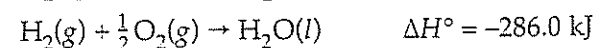
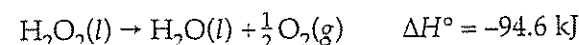
calculate the value of  $\Delta H^\circ$  for the reaction  
 $\text{N}_2(g) + \text{O}_2(g) \rightarrow 2\text{NO}(g)$ .

8. From the following enthalpy changes,



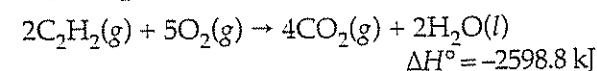
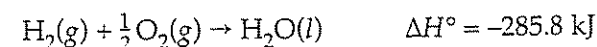
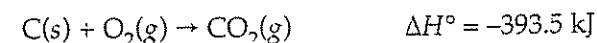
calculate the value of  $\Delta H^\circ$  for the reaction  
 $2\text{Al}(s) + \text{Fe}_2\text{O}_3(s) \rightarrow 2\text{Fe}(s) + \text{Al}_2\text{O}_3(s)$ .

9. From the following enthalpy changes,



calculate the value of  $\Delta H^\circ$  for the reaction  
 $\text{H}_2(g) + \text{H}_2\text{O}_2(l) \rightarrow 2\text{H}_2\text{O}(l)$ .

10. From the following enthalpy changes,



calculate the value of  $\Delta H^\circ$  for the reaction  
 $2\text{C}(s) + \text{H}_2(g) \rightarrow \text{C}_2\text{H}_2(g)$ .