Complete the following reactions. Circle the most favored products.

1. 
$$\frac{500 \, \text{k}}{\Delta}$$

3. 
$$+ H_2(g) \rightarrow$$

5. 
$$+ H_2O \rightarrow$$

7. 
$$+ H_2(g) \rightarrow$$

8. 
$$\leftarrow$$
 +  $O_2$   $\rightarrow$ 

9. 
$$+ \text{ KMnO}_4 + \text{H}_2\text{O} \rightarrow$$

11. 
$$CI$$
  $\frac{500 \text{ K}}{\Delta}$ 

13. 
$$+$$
 HCl  $\rightarrow$ 

16. 
$$+ H_2(g) \rightarrow$$

17. 
$$+ H_2(g) \rightarrow$$

21. 
$$+ H_2O \rightarrow$$

$$22. \hspace{1cm} + \hspace{1cm} \mathrm{KMnO_4} + \mathrm{H_2O} \hspace{1cm} \longrightarrow \hspace{1cm}$$

$$23.$$
 + HCI  $\rightarrow$ 

 $+ H_2(g)$ 

Question 2:

Question 3:

Question 5:  $\bigcirc$  OH

Question 6: HO + OH +

Question 7:

Question 8:  $_{co_2}(g) + _{h_2}(g) + _{h_3}(g) + _{h_4}(g) + _{h$ 

Question 9: + MnO<sub>2</sub> + KOH

Question 10: +

Question 11: + HCI

Question 12: + + + + + + + + + + + CI

Question 13:  $H_2$  (g)

Question 14: + HCI

Question 15:

Question 16:

Question 17:

Question 18:  $_{--}$  co<sub>2</sub> (g) +  $_{---}$  H<sub>2</sub>O (g) + Heat Balance: (2,5,4,2)

Question 19: No Reaction

Question 21:  $H_2(g)$  + OH + OH + OH OH

Question 22: + MnO<sub>2</sub> + KOH

Question 24: + H<sub>2</sub> (g)

Question 25: + HCI