Complete the following reactions. Circle the most favored products.

1. 
$$+ \text{ KMnO}_4 + \text{H}_2\text{O} \rightarrow$$

2. 
$$+ \text{KMnO}_4 + \text{H}_2\text{O} \rightarrow$$

4. 
$$+ \text{ KMnO}_4 + \text{H}_2\text{O} \rightarrow$$

$$5. \bigcirc \bigcirc + \bigcirc \bigcirc \bigcirc$$

$$6.$$
 + HCl  $\rightarrow$ 

8. 
$$+ \text{ KMnO}_4 + \text{H}_2\text{O} \rightarrow$$

$$9.$$
 +  $H_2O$  -

$$10.$$
 +  $Cl_2$  -

13. + 
$$\mathsf{KMnO}_4 + \mathsf{H}_2\mathsf{O}$$
  $\longrightarrow$ 

14. 
$$+ \text{ Cl}_2 \rightarrow$$

15. 
$$+ H_2(g) \rightarrow$$

16. 
$$+ \text{ KMnO}_4 + \text{H}_2\text{O} \rightarrow$$

18. 
$$\rightarrow$$
 Cl<sub>2</sub>  $\rightarrow$ 

19. 
$$\bigcirc$$
 +  $\bigcirc$  CI  $\rightarrow$ 

20. 
$$\wedge \wedge \wedge$$
 +  $\operatorname{Cl}_2$   $\longrightarrow$ 

21. 
$$\bigcirc$$
 +  $_{-CI}$   $\longrightarrow$ 

22. 
$$+ \text{KMnO}_4 + \text{H}_2\text{O} \longrightarrow$$

25. 
$$+ H_2(g) \rightarrow$$

Question 1: 
$$OH \rightarrow MnO_2 \rightarrow KOH$$

Question 2: 
$$OH \rightarrow MnO_2 \rightarrow KOH$$

Question 8: 
$$OH \rightarrow MnO_2 \rightarrow KOH$$

Question 13: 
$$OH + MnO_2 + KOH$$

Question 15:

Question 16: 
$$+ \text{MnO}_2$$
 + KOH

Question 17:

Question 18: CI

Question 19: + HCI

Question 20:

Question 21: + HCI

Question 22:  $OH + MnO_2 + KOH$ 

Question 23:  $\bigcirc$  +  $\bigcirc$  oh

Question 24:  $_{\text{HO}}^{\circ}$   $_{\text{OH}}$   $_{\text{OH}}$   $_{\text{OH}}$ 

Question 25: