

## Oxidation Reduction Worksheet

1. Determine the oxidation number of each atom in the following substances

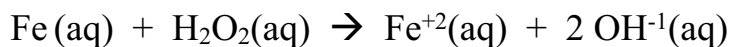
a.  $\text{NF}_3$       N \_\_\_\_\_      F \_\_\_\_\_

b.  $\text{K}_2\text{CO}_3$       K \_\_\_\_\_      C \_\_\_\_\_      O \_\_\_\_\_

c.  $\text{NO}_3^-$       N \_\_\_\_\_      O \_\_\_\_\_

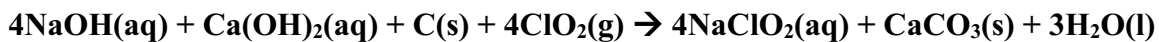
d.  $\text{HIO}_4$       H \_\_\_\_\_      I \_\_\_\_\_      O \_\_\_\_\_

2. For the following balanced redox reaction answer the following questions



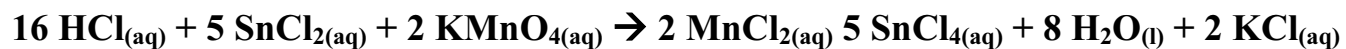
- a. What is the oxidation state of oxygen in  $\text{H}_2\text{O}_2$ ? \_\_\_\_\_
- b. What is the element that is oxidized? \_\_\_\_\_
- c. What is the element that is reduced? \_\_\_\_\_
- d. What is the oxidizing agent? \_\_\_\_\_
- e. What is the reducing agent? \_\_\_\_\_
- f. How many electrons are transferred in the reaction as it is balanced? \_\_\_\_\_

3. For the following balanced redox reaction answer the following questions



- a. What is the oxidation state of Cl in  $\text{ClO}_2(\text{g})$ ? \_\_\_\_\_
- b. What is the oxidation state of C in  $\text{C}(\text{s})$ ? \_\_\_\_\_
- c. What is the element that is oxidized? \_\_\_\_\_
- d. What is the element that is reduced? \_\_\_\_\_
- e. What is the oxidizing agent? \_\_\_\_\_
- f. What is the reducing agent? \_\_\_\_\_
- g. How many electrons are transferred in the reaction as it is balanced? \_\_\_\_\_

4. For the following balanced redox reaction answer the following questions



- a. What is the oxidation state of Mn in  $\text{KMnO}_{4(\text{aq})}$ ? \_\_\_\_\_
- b. What is the oxidation state of Cl in  $\text{SnCl}_{2(\text{aq})}$ ? \_\_\_\_\_
- c. What is the element that is oxidized? \_\_\_\_\_
- d. What is the element that is reduced? \_\_\_\_\_
- e. What is the oxidizing agent? \_\_\_\_\_
- f. What is the reducing agent? \_\_\_\_\_
- g. How many electrons are transferred in the reaction as it is balanced? \_\_\_\_\_