Chem 130: Chemistry for Funeral Services
Problem Set 4: Due 2/21/06

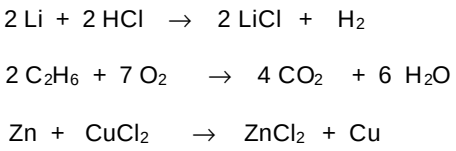
Name: _____ Date: _____

Each question is worth one point. Show your work wherever calculations are required.

1. What is the difference between oxidation and reduction?

2. Explain what a catalyst does.

3. In each reaction below, identify what is being oxidized and what is being reduced? (Be careful! Remember that the question only refers to reactants.)



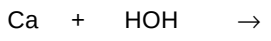
$2\,Li + 2\,HCl \rightarrow 2\,LiCl + H_2$

$2\,C_2H_6 + 7\,O_2 \rightarrow 4\,CO_2 + 6\,H_2O$

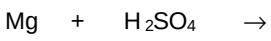
$Zn + CuCl_2 \rightarrow ZnCl_2 + Cu$

4. Complete the following equations. Write NR if no reaction occurs. (Remember the activity series!)

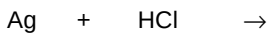
$Fe + HOH \rightarrow$



$Ca + HOH \rightarrow$



$Mg + H_2SO_4 \rightarrow$



$Ag + HCl \rightarrow$

5. How is an allotrope different from an isotope? Give a common example of an allotrope

6. Give the oxidation number for each element in the following compounds.

$FeCl_3$

AgBr

Mg_3N_2

NiO

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7. How is blood clotting related to using purified water in embalming fluids? Why is it important to use purified water in embalming fluids (give the primary reason)?

8. Explain how hydrogen bonding takes place in water. Be sure to discuss bond polarity in your answer. Why is hydrogen bonding important?

9. Describe in some detail one method of purifying water.

10. Give three factors that can change the speed of a chemical reaction. Give an example of each one.