

**Chem 130: Chemistry for Funeral Services**  
**Problem Set 2: Due 1/31/06**

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Each question is worth one point. Show your work, including sketches, wherever calculations are required. Short answer questions should be written in your own words.

1. What is the electronic configuration ( $1s^2$  etc) for the following four atoms:

Lithium

Nitrogen

Chlorine

Carbon

2. Use the concept of valence to explain why oxygen and sulfur have some similar chemical properties.

3. Why does carbon only have four valence electrons if it has six electrons total?

4. Draw the valence electron structures (Lewis structures) for the following four atoms:

Magnesium

Carbon

Bromine

Neon

5. Use the concept of valence to explain why non-metals tend to take on electrons in chemical reactions.

6. Write the chemical formulas for the following compounds:

Magnesium Bromide

Water

Carbon Dioxide

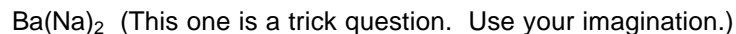
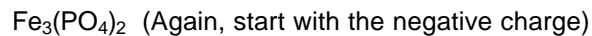
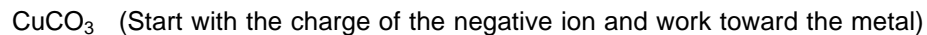
Iodine (diatomic molecule)

Iron (II) Phosphate (caution! be careful with the charges!)

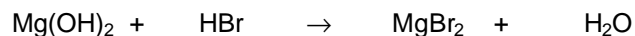
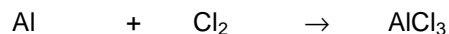
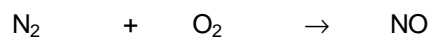
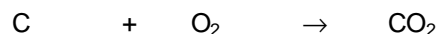
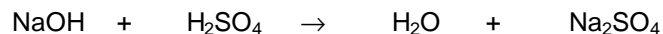
Calcium Hydroxide

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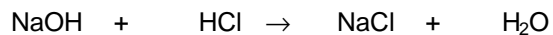
7. Name the following compounds



8. Balance the following equations. Identify each type as synthesis, decomposition or double replacement



9. Draw the Lewis structures for each molecule in the following equation. Identify the bonding as ionic or covalent.



10. Pick a common example of something that needs to be assembled. Write an "equation" describing that assembly. Explain how your equation is similar to a chemical equation. Explain how assembling your item is similar to assembling molecules.