

## GENERAL CHEMISTRY I UNIT ONE REVIEW PROBLEMS

- 1) Balance  $\_\_ \text{Ca} + \_\_ \text{H}_2\text{O} \rightarrow \_\_ \text{Ca(OH)}_2 + \_\_ \text{H}_2$
- 2) Sodium reacts with oxygen, the compound, what is the formula for the compound formed?
- 3) Ions of group 7(halogens) usually have a charge of? Group I alkali metals?
- 4) A 1.0 kg sample of plastic has a volume of  $950 \text{ cm}^3$ , what is density? Will it float in water?
- 5) Convert  $10 \text{ kg/m}^2$  to  $\text{mg/cm}^2$ .
- 6) What is the formula for Iron(III) oxide?
- 7) A compound is composed of by mass 73.47% Carbon. 10.20% Hydrogen, and 16.33% Oxygen. What is the empirical formula?
- 8) Solid gas or liquid?  
Indefinite volume/indefinite shape/compressible \_\_\_\_\_  
Definite volume/definite shape/non compressible \_\_\_\_\_  
Definite volume/indefinite shape/ non or barely compressible \_\_\_\_\_
- 9) In 100.0 grams of carbon dioxide:  
How many C atoms? \_\_\_\_\_  
How many O atoms? \_\_\_\_\_  
How many grams of C? \_\_\_\_\_  
How many grams of O? \_\_\_\_\_
- 10) If you completely burn a kilogram of propane ( $\text{C}_3\text{H}_8$ ) according to the following equation:  
$$\text{C}_3\text{H}_8 + 5 \text{O}_2 \rightarrow 3 \text{CO}_2 + 4 \text{H}_2\text{O}$$
  
How many grams of  $\text{CO}_2$  are produced?  
How many moles of  $\text{CO}_2$  are produced?