**General Chemistry – Moles and Equations Test**

Answer the following questions. Remember to show your work so you can get partial credit if you get the wrong answer!

1. How many moles are there in 7.4 grams of Na2SO4? (3 pt)
2. How much does 9.0 moles of Pb(OH)2 weigh? (3 pt)
3. Which weighs more, 4.5 moles of CuSO4 or 5.5 moles of Ca(OH)2? (6 pt)
4. How many things are in a mole? (1 pt)

Balance these equations (1 pt each)

1. \_\_\_\_ CuSO4 + \_\_\_\_ Ga(OH)3 → \_\_\_\_ Cu(OH)2 + \_\_\_\_ Ga2(SO4)3
2. \_\_\_\_ MgF2 + \_\_\_\_ NaNO3 → \_\_\_\_ Mg(NO3)2 + \_\_\_\_ NaF
3. \_\_\_\_ SnS2 + \_\_\_\_ H2 → \_\_\_\_ Sn + \_\_\_\_ H2S

Write the complete equation for the following processes: (5 pt each)

1. When a solution of copper(II) sulfate (CuSO4) – is added to a heated solution of sodium oxide (Na2O), the products are powdered copper(II) oxide (CuO) powder and dissolved sodium sulfate (Na2SO4). This reaction does not cause a temperature change.
2. When cesium (Cs) metal is placed into water, solid cesium hydroxide (Cs(OH)2) and hydrogen gas (H2) are formed. This reaction is extremely explosive!
3. A secondary reaction takes place when the reaction above occurs. Once the hydrogen gas (H2) has been formed, the heat from the reaction above causes the hydrogen to react with oxygen (O2) in the atmosphere to form steam H2O. This reaction, by itself, is highly explosive.