**General – Moles and Equations Make Up 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 3.4 grams of Na2SO3? (3 pt)
2. How much does 90 moles of Pb(OH)4 weigh? (3 pt)
3. Which weighs more, 4.5 moles of CuSO4 or 5.5 moles of Ga(OH)3? (6 pt)
4. How many things are in a mole? (1 pt)

Balance these equations (1 pt each)

1. \_\_\_\_ Cu2SO4 + \_\_\_\_ Ga(OH)3 → \_\_\_\_ CuOH + \_\_\_\_ Ga2(SO4)3
2. \_\_\_\_ CaF2 + \_\_\_\_ Be(NO3)2 → \_\_\_\_ Ca(NO3)2 + \_\_\_\_ BeF2
3. \_\_\_\_ SnS + \_\_\_\_ 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 solution of potassium oxide (K2O), the products are powdered copper(II) oxide (CuO) and dissolved potassium sulfate (K2SO4). This reaction causes the beaker it is in to cool down.
2. When cesium (Cs) metal is placed into hydrogen sulfide (H2S), dissolved cesium hydroxide (Cs2O) and hydrogen gas (H2) are formed. This reaction is very slow and results in no temperature change.
3. A secondary reaction takes place when the reaction above occurs. Once the hydrogen gas (H2) has been formed, it reacts with the nitrogen (N2) in the atmosphere to form ammonia gas (NH3). This reaction, by itself, is highly explosive.