**Physical Science – Unit 9B Extra Test Prep Practice**

**(Focused on Balancing and Moles)**

**Balance the following equations using coefficients:**

1) \_\_\_\_ Na3PO4 + \_\_\_\_ KOH 🡪 \_\_\_\_ NaOH + \_\_\_\_ K3PO4

2) \_\_\_\_ MgF2 + \_\_\_\_ Li2CO3 🡪 \_\_\_\_ MgCO3 + \_\_\_\_ LiF

3) \_\_\_\_ P4 + \_\_\_\_ O2 🡪 \_\_\_\_ P2O3

4) \_\_\_\_ RbNO3 + \_\_\_\_ BeF2 🡪 \_\_\_\_ Be(NO3)2 + \_\_\_\_ RbF

5) \_\_\_\_ AgNO3 + \_\_\_\_ Cu 🡪 \_\_\_\_ Cu(NO3)2 + \_\_\_\_ Ag

6) \_\_\_\_ CF4 + \_\_\_\_ Br2 🡪 \_\_\_\_ CBr4 + \_\_\_\_ F2

7) \_\_\_\_ HCN + \_\_\_\_ CuSO4 🡪 \_\_\_\_ H2SO4 + \_\_\_\_ Cu(CN)2

8) \_\_\_\_ GaF3 + \_\_\_\_ Cs 🡪 \_\_\_\_ CsF + \_\_\_\_ Ga

9) \_\_\_\_ NaF + \_\_\_\_ Br2 🡪 \_\_\_\_ NaBr + \_\_\_\_ F2

10) \_\_\_\_ Pb(OH)2 + \_\_\_\_ HCl 🡪 \_\_\_\_ H2O + \_\_\_\_ PbCl2

**What is missing in the following equations? Fill in the blanks.**

1) BaS + \_\_\_\_F2 🡪 BaF2 + Pt\_\_\_\_

2) N2 + 3 \_\_\_\_\_ 🡪 2 NH3

3) CH4 + 2 O2 🡪 CO2 + 2 H2\_\_\_

4) 2 \_\_\_\_ + Cl2 🡪 2 KCl

**Solve the following.**

1. How many moles are in 72.9 g of HCl?
2. How many moles are in 79.85 g Fe2O3?
3. How many molecules are in 720 g of C6H12O6?
4. How many grams are in 3.5 mol of Ca3(PO4)2?
5. How many molecules are in 8550g of SO2?
6. How many grams are in 3.01 × 1024 molecules of (NH4)2SO4?
7. How many molecules are in 85 g of AgNO3?
8. How many grams are in 1.204 × 1024 molecules of CH3COOH?
9. Convert 86.84 g of LiBr to moles:
10. Convert 8.045 g of H2CO3 to moles
11. How many cadmium atoms are there in 6.57 moles?
12. How many moles of SO2 are 4.5 × 1024 molecules?