**CW: Stoichiometry Problems**

**Name:**

**Period: 1 4**

**Directions: Solve each stoichiometry problem. Show all your work, have units and formulas after each answer, and circle your answers.**

**2 N2H4(l) + N2O4(l) 🡪 3 N2(g) + 4 H2O(g)**

1. How many moles of nitrogen gas are produced from the reaction of 0.753 moles of dinitrogen tetrahydride with excess dinitrogen tetroxide?
2. How many moles of nitrogen gas are produced from the reaction of 24.14 moles of dinitrogen tetrahydride with excess dinitrogen tetroxide?
3. What is the number of moles of water produced from the reaction of 61.00 moles of dinitrogen tetroxide with excess dinitrogen tetrahydride?

**2 N2H4(l) + N2O4(l) 🡪 3 N2(g) + 4 H2O(g)**

1. What is the number of moles of water produced from the reaction of 10.50g of dinitrogen tetrahydride with excess dinitrogen tetroxide?

**3 Ag(s) + 4 HNO3(aq) 🡪 3 AgNO3(aq) + 2 H2O(l) + NO(g)**

1. How many moles of silver (I) nitrate is theoretically produced when 36.00g of silver reacts with excess nitric acid?
2. How many moles of water is theoretically produced when 36.00g of silver reacts with excess nitric acid?
3. What is the theoretical yield of nitrogen monoxide (in moles) when 36.00g of silver reacts with excess nitric acid?

**3 Ag(s) + 4 HNO3(aq) 🡪 3 AgNO3(aq) + 2 H2O(l) + NO(g)**

1. What mass of silver is required to completely react with 21.00g of nitric acid?
2. What is the theoretical yield (in grams) of silver (I) nitrate when 21.00g of nitric acid reacts with excess silver?
3. What mass of water is theoretically produced when 21.00g of nitric acid reacts with excess silver?