CW 1: Mole/Mole and Mole/Mass Stoichiometry Problems

Name:

Period: 2 3 4

Directions: Balance each equation and solve the stoichiometry problems.

Part One: Mole/Mole

1. K (s) + Cl2 (g) 🡪 KCl (s)
   1. How many moles of Cl2 are needed to react with 10.0mol of K?
   2. How many moles of KCl are produced from 15.00mol of Cl2?
2. BaCl2 (aq) + H2SO4 (aq) 🡪 BaSO4 (s) + HCl (aq)
   1. How many moles of BaSO4 are produced from 90.0 mol of BaCl2?
   2. How many moles of HCl are produced from 19.00mol of H2SO4?
3. Na3PO4 (aq) + (NH4)2CO3 (aq) 🡪 Na2CO3 (aq) + (NH4)3PO4
   1. How many moles of sodium carbonate are produced from 0.500 mol of sodium phosphate?
   2. How many moles of ammonium carbonate are needed to produced 25.00 mol of ammonium phosphate?

Part Two: Mole/Mass

1. HNO3 (aq) + Fe(OH)3 (aq) 🡪 H2O (l) + Fe(NO3)3 (aq)
   1. How many grams of H2O are produced from 10.00mol of HNO3?
   2. What mass of Fe(NO3)3 is produced from 6.00mol of Fe(OH)3?
   3. What mass of Fe(OH)3 is needed to produce 50.0 mol of H2O?
   4. What mass of HNO3 is needed to produce 100.0 mol of Fe(NO3)3?
   5. What mass of HNO3 is needed to react completely with 11.11 mol of Fe(OH)3?