

## MOLES and Equation TEST

Write balanced net reactions for the following:

1. decomposition of iron (III) carbonate
2. synthesis of nitric acid from a non metal oxide and water.
3. The reaction of aqueous aluminum chloride with silver nitrate.
4. The reaction of diarsenic trioxide with nickel(II) oxide.
5. The combustion of methane.
6. The reaction of nitric acid with aluminum hydroxide.

## The Mole Section

7. What is the mass, in grams, of 488 moles of calcium carbonate?
8. What is the mass of  $1.8 \times 10^{24}$  molecules of diphosphorus pentoxide?
9. What is the volume of 112 grams of carbon monoxide?
10. What mass of sodium contains the same number of atoms as 144 grams of carbon?
11. What is the percentage of nitrogen in  $\text{NH}_4\text{NO}_3$ ?
12. A 46.25 g sample contains 14.77 g of potassium, 9.06 g of oxygen, and 22.42 g of tin. What is the empirical formula?