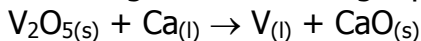


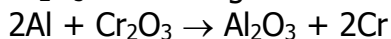
Honors Chemistry

Chapter 3 Exam - Pretest

1. When 10.0mol of V_2O_5 are mixed with 10.0mol of Ca, which is the limiting reactant according to the following equation when balanced?



2. What is the theoretical yield of chromium that can be produced by the reaction of 40.0g of Cr_2O_3 with 8.00g of aluminum according to the following equation?



3. The mass of 1.21×10^{20} atoms of sulfur is:

4. What is the mass of 0.0250mol P_2O_5 ?

5. Balance the following: $SF_4 + H_2O \rightarrow H_2SO_3 + HF$

6. A chemistry student performs a laboratory experiment to determine the empirical formula for tungsten oxide (W_xO_y). The data that is gathered is shown below:

Weight of crucible: 11.120g

Weight of tungsten: 8.820g

Weight of crucible and oxide of tungsten: 23.012g

What is the mass percent of tungsten in the compound?

What is the empirical formula for Tungsten oxide?

7. Aluminum carbide (carbide is C^{4-}) reacts with water to produce aluminum hydroxide and methane (carbon tetrahydride). Write a balanced chemical equation for this reaction.

8. How many grams of water can be produced from 48.0g of oxygen and 2.00mol of hydrogen according to $2H_2 + O_2 \rightarrow 2H_2O$

9. An atom of carbon has a mass about three times greater than the mass of a helium atom. How many grams of helium will contain the same number of atoms as 600.g of carbon?

10. What is the percent yield of a reaction in which 29.50g of ammonia (NH_3) are formed in the lab (as an exclusive product) when 28.02g of nitrogen gas are reacted with 8.064g of hydrogen gas?