Stoichiometry Practice

1. Phosphorous, P4, burns in oxygen to form diphosphorous pentaoxide.
   1. Write and balance a chemical equation representing this chemical reaction.
   2. How many moles of diphosphorous pentaoxide are formed by the combustion of 3.25 moles of P4?
2. Calculate the number of grams of LiOH formed when 2.55 moles of Li3N react with water?

\_\_\_ Li3N + \_\_\_\_ H2O http://www.cod.edu/dept/chem/poc/ProblHTM/ansSTOIC/arrowNO-BG.gif \_\_\_\_ LiOH + \_\_\_\_ NH3

1. What mass, in grams, of calcium carbonate is required to produce 1.57 moles of carbon dioxide?

\_\_\_\_\_CaCO3 http://www.cod.edu/dept/chem/poc/ProblHTM/ansSTOIC/arrowNO-BG.gif\_\_\_\_ CaO + \_\_\_\_ CO2

1. How many grams of carbon dioxide are formed when 5.53 grams of ethyl alcohol, C2H5OH, are produced from glucose, C6H12O6, according to the equation below?

\_\_\_\_ C6H12O6 http://www.cod.edu/dept/chem/poc/ProblHTM/ansSTOIC/arrowNO-BG.gif \_\_\_\_\_\_ C2H5OH + \_\_\_\_\_ CO*2*

1. How many grams of magnesium metal are required to react with 35 grams of nitrogen gas to produce magnesium nitride?

\_\_\_\_\_\_Mg(s) + \_\_\_\_\_1N2 (g) http://www.cod.edu/dept/chem/poc/ProblHTM/ansSTOIC/arrowNO-BG.gif \_\_\_\_\_Mg3N2 (g)

1. For the reaction shown below, 1.26 grams of methane, CH4, were formed, how many grams of aluminum carbide were consumed?

\_\_\_\_\_ Al4C3+ \_\_\_\_\_\_ HCl http://www.cod.edu/dept/chem/poc/ProblHTM/ansSTOIC/arrowNO-BG.gif \_\_\_\_\_ CH4+ \_\_\_\_\_\_AlCl3

* 1. In the above problem how many liters of methane gas would be produced if 4.5 grams of aluminum carbide reacts with an excess of HCl?