Quantitative Relationship in Reactions
(write equations for all reactions)

1. Copper wire reacts with silver nitrate to produce silver and Copper II Nitrate.

   a) How many g of silver will be produced from 2.37 g of Copper.
   b) How many moles of Copper II Nitrate will be produced

2. Iron reacts with Copper II Sulfate to produce copper and Iron II Sulfate

   a) How many moles of Copper will be produced if 2.45g of Iron react
   b.) How many grams of copper will be produced

3. Sodium and Chlorine react to form Sodium chloride

   a) How many moles of sodium chloride could be produced using one mole of sodium.
   b) How many moles of Sodium chloride could be produced using 2.3 grams of Sodium.

4. Methane (CH4) is burned in air to produce Carbon Dioxide and water

   a) How many moles of water could be produced from one mole of methane.
   b) How many moles of water could be produced from 4.0 g of methane.

5. Iron burns in air to produce Fe_3O_4

   a) How many moles of oxygen are needed to react with one mole of Iron.
   b) How many grams of oxygen would this be.
   c) Can a piece of Iron weighing 5.6 g burn completely to Fe_3O_4 in a vessel containing .05 mole of oxygen.

6. Carbon (Graphite) is burned in air to produce carbon dioxide.

   a) If one mole of carbon is burned, how many moles of Carbon Dioxide _____. what mass in grams are produced.
   b) If 5 moles of carbon are burned in 10 moles of oxygen. What is the maximum number of moles of carbon dioxide that can be produced.