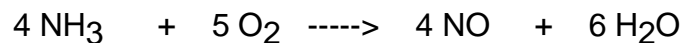


Stoichiometry Worksheet I

1. Ammonia gas reacts with oxygen gas according to the following equation:



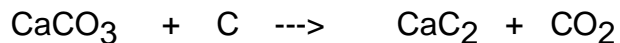
a. How many moles of oxygen gas are needed to react with 23 moles of ammonia?
(29 mole)

b. How many grams of NO are produced when 25 moles of oxygen gas react with an excess of ammonia? (600 g)

c. If 24 grams of water are produced, how many moles of nitrogen monoxide are formed? (0.89 mole)

d. How many grams of oxygen are needed to react with 6.78 grams of ammonia?
(16.0 g)

2. The compound calcium carbide, CaC_2 , is made by reacting calcium carbonate with carbon at high temperatures. The UNBALANCED EQUATION for the reaction is:



- a. Balance the equation.
- b. How many moles of carbon are required to produce 5.0 moles CO_2 ?
(8.3 mole)
- c. How many grams of calcium carbide are produced when 4.0 moles of carbon react with an excess of calcium carbonate? (102 g)
- d. How many moles of carbon dioxide are produced when 55 grams of calcium carbonate react with an excess of carbon? (0.83 mole)
- e. How many grams of carbon are needed to react with 453 grams of calcium carbonate? (136 g)
- f. How many grams of calcium carbonate are needed to form 598 grams of calcium carbide? (934 g)