Skill Practice 51

Practice

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Gas Stoichiometry

Hour: \_\_\_\_\_

1. In a reaction, 24.9 L of N2 reacts with excess H2 to produce NH3. How many liters of NH3 were produced? How many grams of NH3 is this? The pressure in the lab is 97.8 kPa and the temperature was 23.7oC.
2. If 22.5 L of oxygen reacted with excess hydrogen, how many liters of water vapor (gaseous water) could be produced?
3. The combustion of a certain wax can be represented by the following balanced equation:

C22H44 + 33 O2 🡪 22 CO2 + 22 H2O

If 185g of wax (C22H44) burns, how many liters of oxygen gas were used up? Assume the conditions in the lab are 101 kPa and 25oC.

1. Zinc metal reacts with hydrochloric acid to produce hydrogen gas. How many liters of hydrogen can be produced at STP if 13.5g of zinc are reacted with excess HCl?

Zn + 2 HCl 🡪 H2 + ZnCl2

1. If 210g of hydrogen gas react in an atmosphere of excess nitrogen, how many liters of NH3 can be produced? Assume condtions are at STP.