CH301
FALL 2011
Vanden Bout/LaBrake

MORE STOICHIOMETRY PRACTICE

1. Consider the following reaction:
   $4KO_2(s) + 2CO_2(g) \rightarrow 2K_2CO_3(s) + 3O_2(g)$

How many moles of KO_2 are needed to react with 75.0 L of carbon dioxide at -25°C and 215 kPa?

2. Consider the following reaction:
   $2C_4H_{10}(g) + 13O_2(g) \rightarrow 8CO_2(g) + 10H_2O(l)$

(a) How many grams of carbon dioxide are formed when 55.5 g of butane reacts with 45.5 g O_2?

(b) If P=135 kPa and T=270 K, what is the volume of this amount of carbon dioxide? What is the total final volume of this system?

(c) Starting over, 43.2 L of butane is mixed with 76.0 L of O_2 at the same pressure and temperature to give an initial volume of 119.2 L. After butane and O_2 react, the total volume changes, Assuming that the reaction runs to completion, what is the final volume?