Gases and Stoichiometry Part 2

1. Consider the following reaction:

$KClO_3\ (s) \rightarrow O_2\ (g) + KCl\ (s)$

What volume of oxygen, in L, at 28.0°C and 1.00 atm is produced if 6.85 g of $KClO_3$ decomposes?

2. Consider the following chemical equation:

$CaC_2\ (s) + 2\ H_2O\ (l) \rightarrow Ca(OH)_2\ (s) + C_2H_2\ (g)$

What volume of C_2H_2 is produced if 1.523 g of CaC_2 is reacted. The pressure is 731.9 torr at a temperature of 23.0 °C.

3. An airbag has a volume of 60.0 L at a temperature of 22.0 °C. Nitrogen gas, N_2, is formed in a process from solid sodium azide, NaN_3 according to the following chemical equation.

$NaN_3\ (s) \rightarrow Na(s) + N_2\ (g)$

How many grams of NaN_3 is required if the pressure inside the airbag, when it inflates, is 826 mmHg?