Name_____

Honors Chemistry
Ideal Gas Law Problems
PV= nRT
R= 8.31 kPa L/mol K
Standard Pressure = 1.00 atm = 101 kPa = 760. torr
You must use the ideal gas law on this sheet and not the combined gas law!

1) A chemical reaction will create .463 moles of NH_3 gas, what volume will this occupy at 35^o C and 135 kPa?

2) If you have 1.36 g of CO_2 gas, what volume will it occupy at 11^o C and a pressure of 0.92 atm?

3) If you collected 327 mL of iodine gas at 33^o C and 125 kPa, what volume will it occupy at STP? (*hint* get moles, then covert moles to volume at STP)

4) Balance the following equation ___FeS_2 + ____ O_2 → ____ Fe_2O_3 + _____ SO_2

If you react 25.8 g of iron (IV) sulfide, FeS_2, what volume of the gas sulfur dioxide, SO_2, will be produced at 134 kPa and 293 K?

5) Balance the following equation___ H_2SO_4 + ___ Al → ____ H_2 + ____ $Al_2(SO_4)_3$

If you have 34.5 g of Al and react it completely, what volume of H_2 gas will you have at 8.5^o C, and 784 torr?