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 NH3 gas, what volume will this occupy at 35o C and 135 kPa?
2. If you have 1.36 g of CO2 gas, what volume will it occupy at 11o C and a pressure of 0.92 atm?
3. If you collected 327 mL of iodine gas at 33o 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 \_\_\_FeS2 + \_\_\_\_ O2 → \_\_\_\_ Fe2O3 + \_\_\_\_\_ SO2

If you react 25.8 g of iron (IV) sulfide, FeS2, what volume of the gas sulfur dioxide, SO2, will be produced at 134 kPa and 293 K?

5) Balance the following equation\_\_\_ H2SO4 + \_\_\_ Al → \_\_\_\_ H2 + \_\_\_\_ Al2(SO4)3

If you have 34.5 g of Al and react it completely, what volume of H2 gas will you have at 8.5o C, and 784 torr?