Ideal Gas Law Applications Name _____ p. _____

1) A large cylinder of He gas, such as that used to inflate balloons, has a volume of 25.0 L at 22 C and 5.6 atm. **How many moles of helium** are in such a cylinder?

2) **What is the mass (grams**) of the amount of helium calculated in #1?

3) Gas X has a density of 2.60 g/L at STP. **Determine the molar mass** (g/mol) of this gas.

4) Gas Y has a density of 2.60 g/L at 77 C and 0.80 atm. **Determine the molar mass** (g/mol) of gas Y.

5) **Find the pressure**, in atmospheres, of 4.0 grams of CH_4 gas when its temperature is 27 C and its volume is 3000. mL.

6) **Determine the density** of hydrogen bromide gas (HBr) at 3.10 atm and -5°C.

7**) Determine the molar mass** of an unknown gas that has a volume of 72.5 mL at a temperature of 68°C, a pressure of 0.980 atm, and a mass of 0.207 g.