

## CHEM 191 Workshop 1.2: Gases

Name: \_\_\_\_\_

*Please complete this worksheet and turn it in by the end of the class period. Show all work for credit.*

*Refer to Chemistry: Atoms First Sections 8.1, 8.2, & 8.3, and Appendices B, C, and D for more information.*

1. The atmospheric pressure on Mars was measured to be about 6.50 millibar (1 bar = 0.997 atm). What is this pressure in torr and hPa?

2. Read the pressure on the manometer in the room and report the pressure in:

- mmHg:

\_\_\_\_\_

- atm:

\_\_\_\_\_

- hPa:

\_\_\_\_\_

- mbar:

\_\_\_\_\_

3. What is the volume of 1 mol of  $\text{CO}_2$  at STP?
4. Car airbags are inflated with nitrogen gas, formed through decomposition of sodium azide ( $\text{NaN}_3$ ). What is the volume of nitrogen gas produced through the decomposition of 125 g sodium azide at  $27^\circ\text{C}$  and 756 torr?
5. The mixing ratio of ozone at ground level is usually about 20 ppb. Express this as a partial pressure of ozone with respect to the atmosphere as a whole.