

\* VII-1 \_\_\_\_C \_\_\_\_NC

**Chemistry 151**  
**Worksheet 9**

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

- \*A. (2.0 pts.) Determine the pressure exerted by 1.33 moles of  $\text{NO}_2$  gas if the  $\text{NO}_2$  gas occupies 25.2L at a temperature of  $47^\circ\text{C}$ .
- B. (2.0 pts.) A sample of  $\text{CO}_2$  gas exerts a pressure of 420mm(Hg) when enclosed in a 400mL flask at  $59^\circ\text{C}$ . Find the volume of this gas at a pressure of 1.00atm and a temperature of  $167^\circ\text{C}$ .
- C. (2.0 pts.) A sample of  $\text{N}_2$  gas at STP occupies 600mL. Determine the volume of this gas at a pressure of 1.50atm and a temperature of  $77^\circ\text{C}$ .
- D. (2.0 pts.) Determine the volume of 29.0g of  $\text{C}_4\text{H}_{10}$  gas at  $0^\circ\text{C}$  and 760mm(Hg).  
(At. Wt. C=12.0, H=1.00amu)
- E. (2.0 pts.) A sample of  $\text{SO}_3$  gas occupies a volume of 400mL at a temperature of  $57.0^\circ\text{C}$  and 650mm(Hg). Find the temperature in  $^\circ\text{C}$  at which this gas will occupy 0.570L at a pressure of 1.20atm.