

Name \_\_\_\_\_

### Gas Law Problems

Boyles Law, Charles Law and Combined Gas Law

$$V_1P_1 = V_2P_2 \quad \frac{V_1}{T_1} = \frac{V_2}{T_2} \quad \frac{V_1P_1}{T_1} = \frac{V_2P_2}{T_2}$$

$273 + C = K$       **All temperatures must be in Kelvin**

- 1) If you collected 137 mL of iodine gas at 33° C, what volume will it occupy at 246 K?
  
  
  
  
  
  
  
  
  
  
- 2) You calculate that you would get 1.48 L of H<sub>2</sub> gas at 12° C, however you only collect 1.30 L of gas, what is the temperature?
  
  
  
  
  
  
  
  
  
  
- 3) You have 32 mL of gas at 125 kPa, what pressure will give you 15 mL?
  
  
  
  
  
  
  
  
  
  
- 4) At 124 kPa a certain amount of gas takes up 29 mL of space, what volume will it occupy at 315 kPa?

- 5) If you have 34 mL at 22° C and 745 torr, what volume of H<sub>2</sub> gas will you have at 8.5° C, and 784 torr?
- 6) If you have 26 L of gas at 22° C and 1.24 atm, what pressure will cause it to take up 17 L at 15° C?
- 7) If you have 159 mL of gas at 67° C and 115 kPa, what temperature will cause it to take up 117 mL at 102 kPa?
- 8) If you have 63.4 mL of gas at 123 kPa and 5° C, what volume will it occupy at 115 kPa and 17° C?