**Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_**

**H. Chemistry**

**Ch. 12.5 Lecture Guide**

* 12.5 Ideal Gas Law
  + Deriving the Ideal Gas Law
  + Using Ideal Gas Law in Calculations
    - A sample of hydrogen gas, H2, has a volume of 8.56 L at a temperature of O °C and a pressure of 1.5 atm. Calculate the number of moles of H2 present in this gas sample.
  + Practice: pg. 391 q. 50
  + Using Ideal Gas Law Involving Conversion of Units
    - What volume is occupied by 0.250 mol of carbon dioxide gas at 25 °C and 371 torr?
  + Practice: pg. 392, q. 57, 60
  + Using Ideal Gas Law Under Changing Conditions
    - Suppose we have a 0.240 mol sample of ammonia gas at 25 °C with a volume of 3.5 L at a pressure of 1.68 atm. The gas is compressed to a volume of 1.35 L at 25 °C. Use the Ideal Gas Law to find the final pressure.
  + Practice: pg. 392, q. 61, 62
  + Combined Gas Law
    - A sample of diborane gas, B2H­2, a substance that bursts into flames when exposed to air, has a pressure of 0.454 atm at a temperature of -15 °C and a volume of 3.48 L. If conditions change so that the temperatue is 36 °C and the pressure is 0.616 atm, what will be the new volume of the sample?
  + Practice: pg. 392, q. 63, 64