**Name: Period: Seat#:**

**Worksheet #3**

P =

V =

n =

R =

T =

MM =

d =

$$MM=\frac{dRT}{P}$$

**PV = nRT**

R Values

atm 🡪

kPa 🡪

mmHg 🡪

**Directions:**

First – label the variables and list the R values in the
boxes on the right side of the worksheet. Then - solve
the following Problems below. Assume all number are 3 significant figures. Remember to show your work!

|  |  |
| --- | --- |
| 1. How many moles of oxygen will occupy a volume of 2.50 liters at 1.20 atm and 25°C? *0.123 mol*
 | 1. What volume will 2.00 moles of nitrogen occupy at 720. torr and 20.°C? *50.8 L*
 |
| 1. What pressure will be exerted by 25.0 g of CO2 at temperature of 25°C and a volume of 500. mL? *27.8 atm*
 | 1. At what temperature will 5.00 g of Cl2 exert a pressure of 900. torr at a volume of 750. mL? *153 K/ -120°C*
 |
| 1. What is the density of NH3 at 800. torr and 25°C? *0.733 g/L*
 | 1. If the density of a gas is 1.2 g/L at 745 torr and 20. °C, what is its molar mass? *29.4 g/mol*
 |
| 1. How many moles of nitrogen gas will occupy a volume of 347 mL at 6680 torr and 27°C? *0.124 mole*
 | 1. What volume will 454 grams (1 lb) of hydrogen occupy at 1.05 atm and 25°C? *5240 L*
 |
| 1. Find the number of grams of CO2 that exert a pressure of 785 torr at a volume of 32.5 L and a temperature of 32°C. *59.0 g CO2*
 | 1. An elemental gas has a mass of 10.3 g. If the volume is 58.4 L and the pressure is 758 torr at a temperature of 2.5°C, what is the gas? *4.00 g/mol He*
 |