

Chemistry II Worksheet
Gas Laws Review & Practice

NAME _____

INSTRUCTIONS: These problems cover most, if not all, of the gas laws we've covered so far. Use your notes. Use your calculator. Use your Periodic Table, yellow Card™, and even your textbook (for all the help it'll be). Just be sure to do these *on your own*, Show your work, keep it neat,
(101.3 kPa = 1 atm)

1. If the pressure exerted by a gas at 25 °C in a volume of 0.044 L is 3.81 atm, how many moles of a gas are present?
2. Determine the Celsius temperature of 2.49 moles of a gas contained in a 1.00 L vessel at a pressure of 143 kPa
3. Calculate the volume that a 0.323 mole sample of a gas will occupy at 265 K and a pressure of 0.900 atm.
4. What is the pressure in atmospheres of a 0.108 mol sample of helium gas at a temperature of 20.0°C if its volume is 0.505 L?
5. Determine the Kelvin temperature required for 0.0470 mol of a gas to fill a balloon to 1.20 L under a pressure of 0.988 atm.
6. How many grams of gas are present in a sample that has a molar mass of 70.0 g/mol and occupies a 2.00 L container at 117 kPa and 35.1°C ?
7. Calculate the grams of nitrogen gas present in a 0.600 L sample kept at 1.00 atm and a temperature of 22.0°C.
8. What is the density of a gas at STP that has a molar mass of 44.0 g/mol?
9. What is the molar mass of a sample of gas that has a density 1.09 g/L at 1.02 atm and 25.0 °C?
10. Calculate the density a gas will have at STP if its molar mass is 39.9 g/mol.