

## Ideal Gas Law Worksheet $PV = nRT$

Use the ideal gas law, and the universal gas constant to solve the following problems:

*with atm:  $R = 0.0821 \text{ L*atm}/(\text{K*mol})$       with kPa:  $R = 8.31 \text{ L*kPa}/(\text{K*mole})$*

- 1) If I have 4 moles of a gas at a pressure of 5.6 atm and a volume of 12 liters, what is the temperature?
- 2) If I have an unknown quantity of gas at a pressure of 121.6 kPa, a volume of 31 liters, and a temperature of 87 °C, how many moles of gas do I have?
- 3) If I contain 3 moles of gas in a container with a volume of 60 liters and at a temperature of 400 K, what is the pressure inside the container? (in atm)
- 4) If I have 7.7 moles of gas at a pressure of 0.09 atm and at a temperature of 56 °C, what is the volume of the container that the gas is in?
- 5) If I have 17 moles of gas at a temperature of 67 °C, and a volume of 88.89 liters, what is the pressure of the gas? (in atm)