**Combined Gas Law & Ideal Gas Law Worksheet**

1. A toy balloon has an internal pressure of 1.05 atm and a volume of 5.0 L. If the temperature where the balloon is released is 20. 0 C, what is the volume in liters when the balloon rises to an altitude where the pressure is 480 torr and the temperature is –150 C?
2. 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 in Celsius?
3. A gas sample occupies 3.25 L at 24.5 °C and 1825 mmHg. Determine the temperature at which the gas will occupy 4250 mL at 1.50 atm.
4. If I contain 125 grams of carbon dioxide in a container with a volume of 60. liters and at a temperature of 2150C, what is the pressure inside the container in kPa?
5. 2.00 L of hydrogen gas, originally at 25.0 °C and 750.0 torr, are heated until a volume of 20.0 mL and a pressure of 3.50 atm is reached. What is the new temperature in Celsius?
6. A small research submarine with a volume of 1.2 x 105 L has an internal pressure of 110 kPa and an internal temperature of 150 C. If the submarine descends to a depth where the pressure is 956 mmHg and the temperature is 30 C, what will the volume in liters of the gas inside be if the hull of the submarine breaks?
7. If I have 18.9 grams of nitrogen gas at a temperature of 67.0 0C, and a volume of 88.89 liters, what is the pressure of the gas in torr?
8. If sulfur dioxide is held at a temperature of 985 °C in a container with a volume of 25 liters and a pressure of 560 atm, how many grams of gas do I have?