**The Amazing World of Gas Laws**

1. A SCUBA tank operates at a temperature of 200 C and a pressure of 205 atm. If a SCUBA tank is thrown into a fire where the temperature is 500o C, what will the pressure inside the tank be?
2. If a SCUBA tank explodes when it reaches a pressure of 410 atm, at what temperature will it explode?
3. How many moles of air are present in an 18 L SCUBA tank under the conditions described in problem 1? (R = 0.08206 Latm/molK)
4. If all of the gas inside of a SCUBA tank were to be released into a balloon at a pressure of 1.00 atm and a temperature of 20 degrees C, what would the volume of this balloon be?