PHYS 212L Spring 2014 Lab 2 Hwk due on WP: 1/31/14

 Ideal Gas law is given by: PV = nRT; R = 8.314 J/mol.K

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1. Ch19, P8:

Compute **(a)** the number of moles and **(b)** the number of molecules in 5.4 cm3 of an ideal gas at a pressure of 49 Pa and a temperature of 270 K.

1. **Ch19, P82:
(a)** What is the volume (in cubic meters) occupied by 1.50 mol of an ideal gas at standard conditions — that is, 1.00 atm (= 1.01 x 105 Pa) and 273 K? **(b)** What is the number of molecules per cubic centimeter (the *Loschmidt number*) at standard conditions?

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| **3. PDV: Pressure of ideal gas with changing temperature, Question 1** |
| http://edugen.wileyplus.com/edugen/art2/common/pixel.gif |

Physics Demonstration: Pressure of ideal gas with changing temperature

How could you determine the value of absolute zero in Celsius from this experiment?