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

|  |  |
| --- | --- |
|  |  |

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?

|  |  |
| --- | --- |
|  |  |

|  |
| --- |
| **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](javascript:xlinkobject('c19-sec1-physics-0002','nopolice');)

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