Homework #6

Due in class on Wednesday, October 14th.

Solve the following problems in one Excel workbook/VBA project. Create a different VBA module for each problem (name the modules Problem1, Problem2, etc.) and, as appropriate, a different Excel worksheet for each problem (name the worksheets Problem1, Problem2, etc.). Use Option Explicit for all VBA modules. Enter your name, lab section and the date as a comment in each of your VBA modules.

1. Write a VBA function called **GasConstant** that returns the value of the gas law constant for several different systems of units based on an input argument shown in the table below.

Input Argument	Gas Law Constant	Units
1	1.986	BTU/(lbmol•°R)
2	8.314472	m^3•Pa/(mol•K)
3	0.082057	L•atm/(mol•K)
4	10.73159	ft^3•psi/(°R•lbmol)
5	998.8701	ft^3•torr/(K•lbmol)

2. Record a macro called **BlueCurr**, with a shortcut key combination *Ctrl-Shift-B*, that formats a selected cell or range of cells containing number(s) according to the following specifications:

    ✓   currency with 2 digits to the right of the decimal point
    ✓   10-point arial font in italics and bold, white in color
    ✓   centered vertically and horizontally in the cell
    ✓   dark blue background
    ✓   black outline

    Clean up the VBA code, removing unnecessary statements.

3. Write a Sub in VBA called **IdealPressure**, with a shortcut key combination *Ctrl-Shift-I*, that gets from the user input values of gas volume (in m^3), temperature (in °C), number of moles, and computes and displays the pressure (in atm) using the ideal gas law. Use input validation (Do-Loop) to check the user input values and format the precision of the displayed pressure to two digits to the right of the decimal point (FormatNumber).