NAME: _____

Spectroscopy Lab I

ASTR 1010L

Instructor: Larry Krumenaker

1) Following the instructions given verbally, look at the continuous spectrum light source and make as precise a measurement as you can *for the places where the colors change from one to another*, and *where the red and blue colors change to black*. You may have a partner record YOUR observations but then s/he must look through the spectroscopes and get their own observations. This is not a group observation!

Black-Red	*Red-Orange*	**Orange-Yellow**	*Yellow-Green*	**Green-Blue**
_____nm_____	_____	_____	_____	_____

Blue –Indigo	**Indigo-Violet**	*Violet-Black*
_____	_____	_____nm

2) When you have completed your observations, please enter them in the appropriate columns of the spectroscope spreadsheet on the computer.

ENTER the LINE NUMBER on which you put your data in the spreadsheet….
here: _____ (line number)

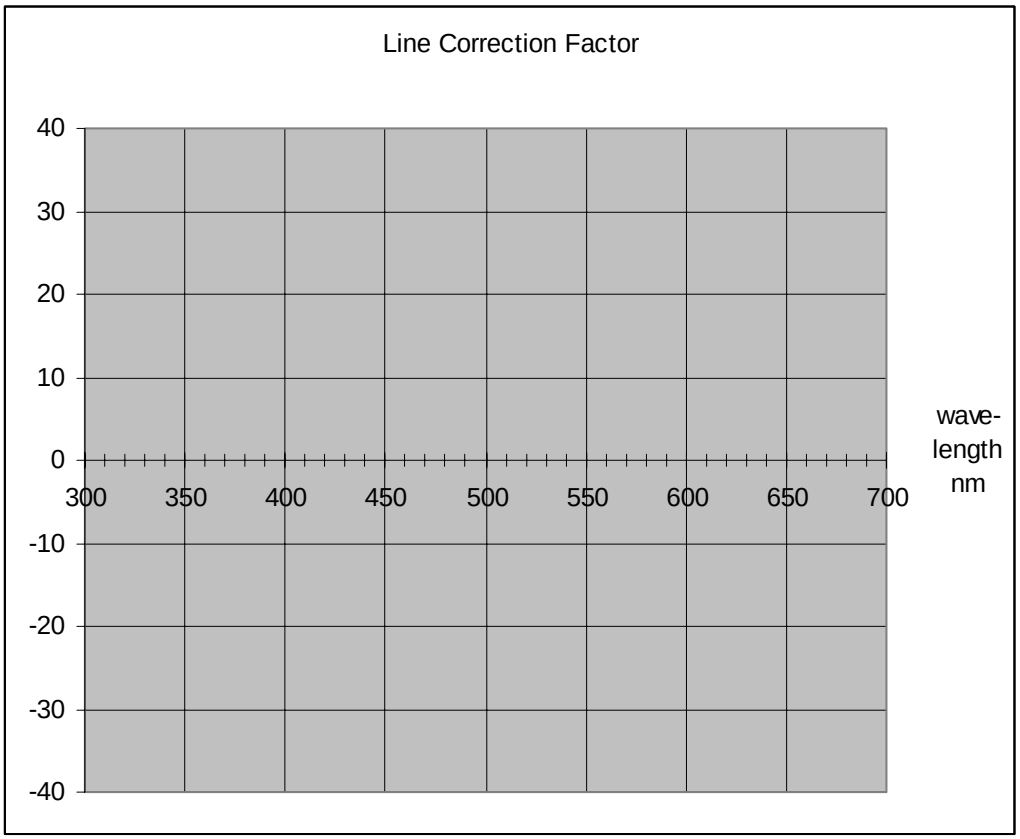
(There will be a discussion before you do the next part! Please wait!)

3) Go over to Mercury or Helium vapor gas tube and measure the visible lines, recording the *line colors and wavelengths* below. There should be about 8 lines, some strong, some weak. Do not use the Difference column yet.

	Color	Wavelength(nm)	Difference
(Line most towards the violet end of the spectrum)	_____	_____	_____
	_____	_____	_____
	_____	_____	_____
	_____	_____	_____
	_____	_____	_____
	_____	_____	_____
	_____	_____	_____
(Line most towards the red end of the spectrum)	_____	_____	_____

4) Using the data provided by the instructor, determine which lines you measured and calculate the Difference, as in KNOWN wavelength MINUS YOUR measure. List the data in the Difference column in the table on the other side, being sure to label the numbers with the proper sign (+ or -)

5) Graph the values on the grid below. Do NOT connect the points with a line! Notice that we are changing the title from Difference to Correction Factor. You will use the Correction Factor later.



Notes: