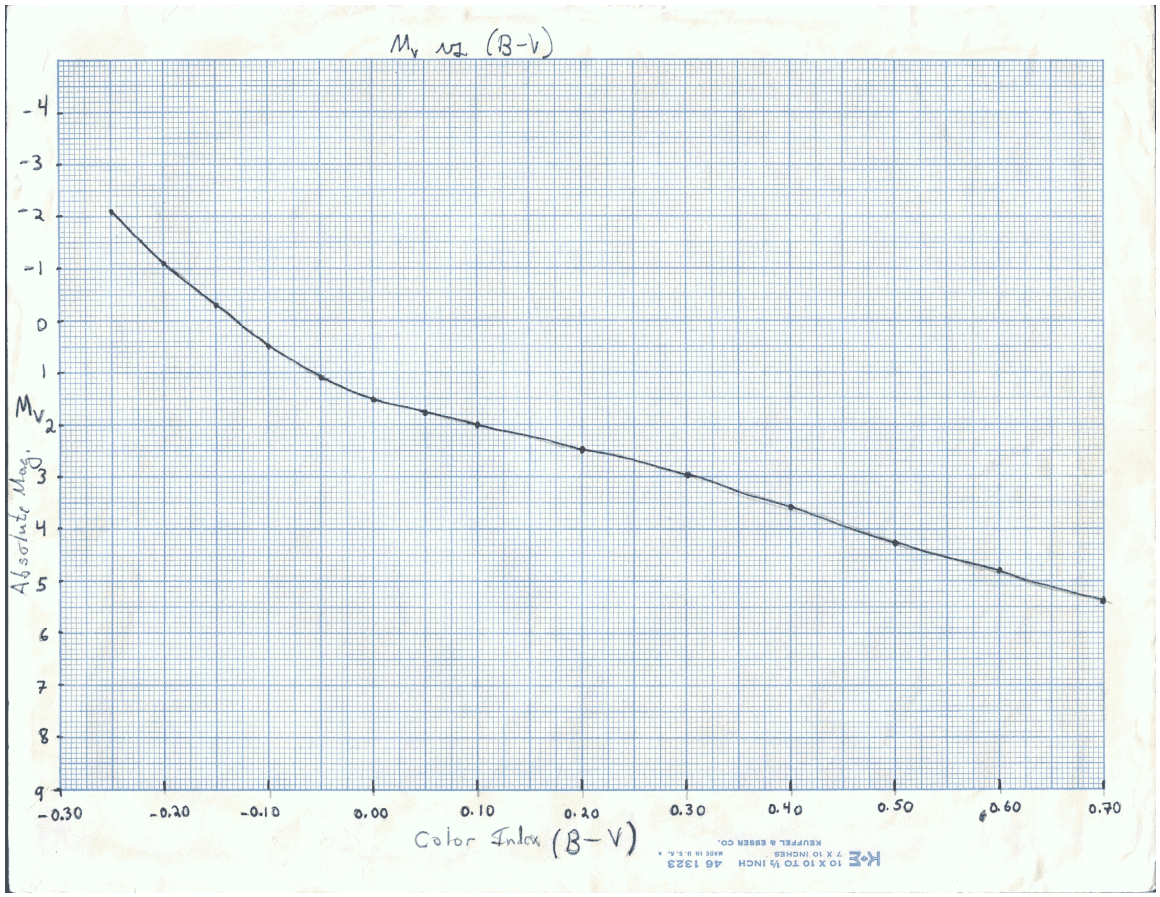
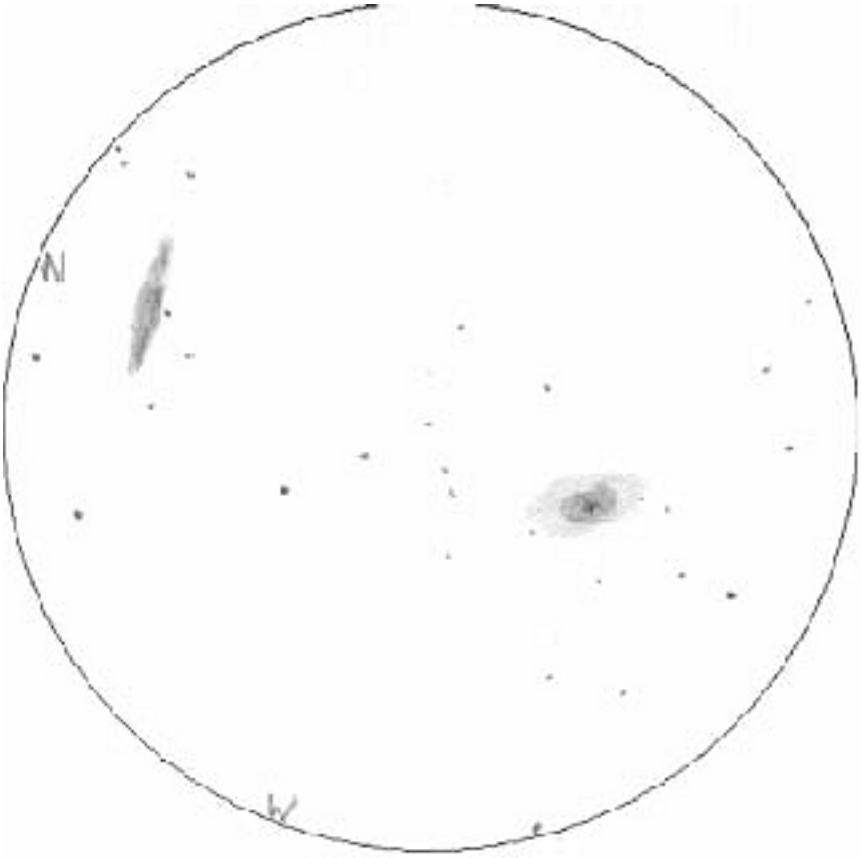
Guidelines for Writing Lab Reports

1. Record all data in the data grid of your report form using a pen. If you make a mistake draw a single line through it rather than scribbling it out (it may turn out that it wasn't a mistake after all). It is best to put your data into columns, with identifying headers. That way if you are multiplying the data by something such as a scale factor you can make another column next to the first with the results of the multiplication, which looks better and it is easier to read.
2. Show samples of all of your calculations on the section for sample calculations.
3. The results of a calculation should always have an appropriate unit.
   Time: seconds, minutes, hours, days, years, etc.
   Distance: millimeters, centimeters, meters, kilometers, astronomical units, light years, parsecs, etc.
   Angles: degrees, arcminutes, arcseconds, etc.
   Velocity: meters/second, kilometers/second, etc.
4. Graphs should always be done in **PENCIL.** Each axis of a graph should have identifying labels. The graph should also have a title. Graphs should be drawn so that the data fills most of the sheet of paper. Smooth curves are to be drawn through data points. Don't connect the dots! The following graph demonstrates these rules. Notice that the scale on the vertical axis is a reverse scale. That is typical of graphs involving stellar magnitudes. Also notice that the zero point does not have to start in the lower left corner of the graph.



5. Drawings should also be done in pencil. Drawings made through a telescope need to show the field of view, and compass directions. West can always be determined by turning the telescope drive off and observing the direction that the object drifts. Objects will drift to the West. You should always record information about the telescope and eyepieces that were used as well as the sky conditions. The following is a sample of a sketch taken at a telescope. Notice the compass directions.



6. When asked to compare a measurement with a known value calculate the percent difference. The percent difference is calculated as follows.

$$\text{Percent Difference} = \frac{(\text{Actual Value} - \text{Measured Value})}{\text{Actual Value}} \times 100$$