Goals
1. To determine the focal lengths of a diverging lens and a convex mirror.
2. To write a complete lab report.

Reading:
- Review chapter O4
- Review Chapter 3 (How to Write a Lab Report) of the lab reference manual

Pre-Lab Problems: The first two questions can be addressed in WebAssign; all four should be answered in your lab notebook as well.

Develop the theoretical background and a procedure for determining the focal length of a diverging lens. In addition to a diverging lens, you will be able to use the converging lens whose focal length you measured last week. Consider the following:
  a. You cannot measure the location of a virtual image. Where must the object for the diverging lens be in order to produce a real image, and what kind of object would it have to be (real or virtual)?
  b. What arrangement of the two lenses will you use to produce a real image with the diverging lens? Give a sketch.
  c. What measurements will you take? (You should take more than a single measurement!)
  d. How will the focal length of the diverging lens be determined from your measurements? (What will you plot? How will you interpret the plot?)

Lab Procedure:
- The basic apparatus will be the same as for the previous lab. In addition to a diverging lens and a convex mirror, you will be able to use the converging lens whose focal length you measured last week.
- Make a note of the numbers of the converging and diverging lenses and the convex mirror that you use.
- Carry out your procedure for determining the focal length of the diverging lens. Modify it as necessary, but be sure to make careful notes about what you did.
- Adapt your procedure to determine the focal length of the convex mirror. Be sure to make careful notes about what you did.

Post-Lab Assignment:
1. Determine the focal lengths of the convex mirror and the diverging lens. Be sure to include uncertainties (think carefully about how these should be calculated).
2. Write a *complete* lab report for this experiment. It should be typed.