This assignment has 3 basic parts: Enroll in Mastering Physics, do the on-line “HW #1” assignment, and do the pencil-and-paper problems below.

**Enroll in Mastering Physics.**

First, you will need a “Student Access Kit”. If you bought your text at Lafayette’s bookstore, you should have received the kit with the text. If you got a 2-semester kit last semester, you should be able to use it again; no further purchase is necessary. If you do not have a kit, you can purchase one either through the bookstore, or on-line at [http://www.masteringphysics.com](http://www.masteringphysics.com). Be sure to click on the right textbook—we are using Young/Freedman’s *University Physics* 12/e. Once you have your kit, you can register on-line at [http://www.masteringphysics.com](http://www.masteringphysics.com). When asked to provide a College ID, *please* use your Lafayette e-mail ID, e.g. something like smithj. Do *not* use your “L-number.”

One you have registered, you can log in at the Mastering Physics web site and enroll yourself in this course. The course ID is MPDOUGHERTY133F11.

**Do “HW #1.”**

The first part of this assignment is intended to help introduce you to the system, including the ways to enter mathematical expressions. It is worthwhile to go through it. The first four problems are for practice (i.e. they don’t count) but you should try them. You will get more out of the system and ultimately save yourself time and avoid frustration if you invest a little time now. You probably did these same problems last semester, but a quick review may still be helpful.

The last three problems are the graded physics problems for this week. They count, so don’t skip them.

**Do the Pencil-and-Paper problems.**

Do the following two problems: Chapter 14: 14.52, and the supplemental problem S1 below.

**Supplemental Problem S1** (50 pts.)

The photos below show a gauge on a radon removal system installed in my home. The pump continuously draws air from below the basement floor, up through the white PVC pipe, and up through the roof. The pressure gauge is a U-tube with a red fluid. The right-hand side of the U-tube is connected to the inside of the PVC pipe. The left-hand side of the tube is exposed to the atmosphere. The scale markings on the gauge are in inches. Estimate approximately how much air (m$^3$) is pumped out per day. Discuss any assumptions, approximations, or estimates you make.

Please write neatly and show your work clearly. Staple your pages together.
Grading.

Problems will normally be weighted in the following way: “Exercises” (such as 14.10) typically count 10 points each, while “Problems” (such as 14.52) typically count 20 points. Your total score for each week will be the sum of the on-line and pencil-and-paper scores.

Academic Honesty

You may use, without proof, any results from your text by simply quoting the result and giving the reference (e.g. equation number or page number). You should understand how that result was obtained, but you need not transcribe the derivation.

If you get bogged down with any of the problems, do not hesitate to discuss them with me or with a fellow student. However, if you discuss a problem with anyone (besides me) you should acknowledge that collaboration. Please see the Academic Honesty policy for more information about appropriate and inappropriate collaboration.