Significant Figures

If you desire (or if your professor requires you) to be more fastidious about your use of significant figures in your calculations, we have collected some resources to help you. You will need to become familiar with a handful of rules for

(1) counting how many and which digits are significant in any given number, and

(2) how many significant digits to keep when doing a calculation with different numbers.

The following websites, designed to help students at Purdue University and the University of South Carolina, do an excellent job of briefly explaining these rules and showing you plenty of example problems to let you practice -- in keeping with the philosophy of *A Student's Guide to the Mathematics of Astronomy*.

Much of the descriptive information about the rules is redundant between the various sites, but we are including them all anyway to provide you with several different ways of hearing the rules explained as well as lots of examples to see these rules in action.

Resources:

University of South Carolina Aiken, Department of Chemistry & Physics:

Determining which/how many digits are significant:
http://www.usca.edu/chemistry/genchem/sigfig.htm

Doing mathematical operations with significant digits:
http://www.usca.edu/chemistry/genchem/sigfig2.htm

Purdue University, College of Science Chemical Education:

http://chemed.chem.purdue.edu/genchem/topicreview/bp/ch1/sigfigs.html

Also has some practice problems on other topics covered in our text: Units, and Scientific Notation

http://chemed.chem.purdue.edu/genchem/topicreview/bp/ch1/

University of South Carolina, Department of Chemistry and Biochemistry

Tutorial -- includes an explanation of "exact numbers", and some practice questions and answers:

http://www.chem.sc.edu/faculty/morgan/resources/sigfigs/

Also includes links to further resources, including lots of tutorials and practice problems:

http://www.chem.sc.edu/faculty/morgan/resources/sigfigs/links.html