- OOPS. I gave the wrong room number for INSLAB. Thursday's recitations will be in CB313, not CB335 as previously announced.
- Homework #6 §7.2 #1, 3, 5, 7, 13, 15, 17, 44, 58. This assignment will be discussed in recitation on Thursday, 7 February 2002. Your main goal is to learn how to evaluate integrals of the form

$$\int \sin^m(x)\cos^n(x)\,dx.$$

- Homework #7 §7.3 #1, 3, 5, 7, 13, 17, 27, 31, 35. §7.4 #1–15 (odds, don't worry these are pretty easy), 17, 19, 21, 31, 43, 59, 61.

  We will begin discussing Homework 7 on Tuesday, 12 February 2002.

  In section 7.3, our main goal is to learn how to evaluate integrals involving the expression $\sqrt{a^2-x^2}$. This will allow us to finally show that the area of a circle is πa^2.

  In section 7.4, we will learn the general form of the partial fractions decomposition and we will learn how to integrate rational functions whose denominators factor into linear factors or with at most one irreducible quadratic factor.

- Homework D. Due Wednesday, 13 February 2002. Create a Maple worksheet and carry out the following tasks. Use the example worksheet at http://www.ms.uky.edu/∼rbrown/courses/ma114.s.02/hwkD.mws to learn about the needed commands. Print out the worksheet to hand in.

  Even though, you will need to collaborate at the computer, please take the time to have each person in your group carry out the assignment.

  1. Type your name and section number as the first line of the worksheet. If you leave spaces, this may confuse Maple. Use the format `RobertoCarlos006;` If you don't have enough to do, see if you can find out how type your name as text, rather than Maple input.
  2. Evaluate the integral

$$\int_{-2}^{2}\sqrt{4-x^2}\,dx.$$

     You will need to use the Maple word `int(f(x), x=a..b);` to compute the definite integral $\int_a^b f(x)\,dx$. Use the Maple words: `int, sqrt,` and `a^ b` which stands for a^b.
  3. Pick an interesting function f. Compute the derivative of f and plot f and the derivative of f on the same axes. As indicated in the example worksheet, you will need to use the documentation for the plot command to find out how to plot two functions on the same graph.

4. Use the Maple word `sum` to compute the sum

$$\sum_{k=1}^{101} \frac{1}{k^2+k}$$

5. Convert the answer to the previous calculation to a decimal answer with `evalf`. In Maple, we can always refer to the result of the previous calculation with `%`. A more elegant approach would be to assign a name to the answer of the previous step, and then apply `evalf` to the name.
6. Find the partial fraction decomposition of the rational function

$$\frac{1}{x^2+x}$$

Use the Maple command `convert` with the `parfrac` option.

- How to login at INSLAB. Log in using the MS domain, your username and your student ID as the password. Your TA has the official list of usernames. Most of the usernames seem to be of the form lastnamef where lastname is the last name and f is the first letter of the first name. For example, Roberto Carlos's username would be carlosr.

- After you login: Find Maple on the program menu and use the open URL command in Maple to open the example worksheet at http://www.ms.uky.edu/∼rbrown/courses/ma114.s.02/hwkD.mws (or download the worksheet using a browser pointed at http://www.ms.uky.edu/∼rbrown/courses/ma114.s.02). Read through the examples in this worksheet. Create a new worksheet and carry out the computations described above.

- What if I don't have an account? You may use the demo accounts provided by INSLAB. These accounts are able to print, but I would not expect to store files on disk.

- What are INSLAB's hours? INSLAB is open 9-5 Monday-Friday.

- Where else can I do this assignment? Maple should be in most of the computer labs on campus. Your password and username for your Inslab account is different from the the password and username at other University computer labs. The INSLAB account will also work in Mathskeller, (I think).

February 6, 2002