

- This assignment will be extra credit. Create a Maple worksheet, carry out the following tasks and print out the worksheet to hand in. Use the example worksheet at <http://www.ms.uky.edu/~rbrown/courses/ma114.s.04/hwkG.mw> to learn about the needed commands. You may use the “Open URL” command on the file menu to load the worksheet. (Though, I imagine this might be viewed as a security risk.)

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.

- Where can I do this assignment? Maple is available on most the computer labs on campus. Look on the menu entry for mathematics programs.
- You will find Maple to be helpful with calculations. You may ask Maple to check your work when evaluating integrals and other problems.