

# Maple Help Sheet

## Important Sites

Webassign: <http://webassign.ncsu.edu>

Calculus and Maple Homepage : <http://www.math.ncsu.edu/calculus>

Math Multimedia Center: Hours, Tutoring, Consultants, Lectures: <http://go.ncsu.edu/mmc>

Virtual Computing Lab (VCL): <http://vcl.ncsu.edu> (RUN Maple from home)

**The Math Multimedia Center is located in SAS 2105 and is open Monday – Thurs from 8am-6pm and Fridays 8am-5pm.**

**To get started on your Maple homework, you will need a web browser (Firefox, Safari, Google Chrome, etc.) and Maple. To do Maple from home, you will need to purchase Maple or use VCL.**

## Logging into a Computer

If you have logged into the campus system before, then your login ID and password is the same as before. If this is your first time logging in, It is the last four numbers of their student id number (not social security number) plus 2 digit month they were born plus the 2 digit day they were born. So if the last digits of my student id was 1234 and I was born Sept 19, my password would be: 12340919 Do not use spaces or upper case letters in your login ID or password.

## Follow these instructions to download your hw/tutorial:

1. Open a Web Browser (Safari/Firefox/Mozilla/Google Chrome)
2. Go to <http://www.math.ncsu.edu/calculus>
3. You will need to type in your login and password
4. Select Student
5. If you have not already downloaded your homework assignment, select Maple Homework
6. Choose your class and homework you want to download and save it to your home directory.
7. You will also need to download the Maple lesson. On the main page, choose Maple lessons and select your class. Download the lesson to your home directory and double click it to open it in Maple.

## VERY Important Things to Remember

- \* Save your work often!
- \* You are given a limited number of submits, this gives you a chance to see how you are progressing.
- \* If you need help, ask your teacher, T.A., or a consultant in the Multimedia Center.
- \* Don't wait until the due date to start your homework or get help. The Consultants will be busy helping other students in MA 141, 241, and 242.
- \* If you are doing your work from home, you must have an internet connection and Maple in order to work on Maple and submit.

**You must use Maple 10.04, Maple 10.6 or any version of Maple 11 or higher to complete your Maple homework. Older versions of Maple often do not display complete problems and lead to errors.**

## Common Maple Commands

+ - / \* ^ note that ^ is the same as \*\*

**e** vs **e**

**e**5 is written as `exp(5)` which is not to be confused with

5e-1 (also known as .5 which is written as `5e-1` in Maple. Maple will distinguish this difference by using bold for **e** and non-bold e for scientific notation.

`evalm` vs `evalf` (`evalf` evaluates an answer to decimal form ) 4 decimal places would be `evalf(f,4)`;

Pi versus PI or pi

If you want to use Pi in Maple, always write it as Capital P and lowercase i if you want to use it as 3.14 PI and pi is used only as a graphic image with no numerical value association.

Practice by typing: `Pi`; `sin(16)`; `sqrt(3)`; `exp(5)`;

To do the 3<sup>rd</sup> root of 15 you would type: `surd(15,3)`; NOT `15^(1/3)`;

To store values you must ALWAYS use the `:=`

example; `b:=5`; or `test1:=5*6`; `f:=x^2`;

Plugging in values into an equation can be done by `f:=x -> x^2` then `f(5)`;

Simplify an algebraic expression (for example) `simplify((1+x)/x+(1-x)/x)`;

Solves a system of equations for a set of unknowns `solve({2*x+5*y=12,12*x+4*y=17},{x,y})`;

To plot g when the equation is `g:= x -> x^2` type `plot(g,-10..10)`;

To plot 2 equations using `h:= x -> x^2 + x` type `plot([g(x),h(x)], x=-5..5, y=-20..20)`;

To change the color of each plotted line, use `color=[color1, color2, color3]`

For example: `plot([sin(x), 2*sin(x), 3*sin(x), 4*sin(x)], x=0..2*Pi, color=[red, green, blue, yellow])`;

For 3D plotting, you will first need to type `with(plots)`;

For example if you used `m:=(x,y)-> sin(x)*sin(y) *exp(-x^2)`; `plot3d(m(x,y),x=-Pi..Pi,y=-Pi..Pi,axes=BOXED,style=HIDDEN,orientation=[135,75])`;

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