

The WeBWorK Homework System

In this course, you will be using the WeBWorK online system to receive and submit your assignments. In this web-based system, each student receives a customized version of the problem set. When you submit an answer, you'll receive an instant response from the system that indicates whether you're right or wrong, and in most cases, you can keep trying to get the right answer up until the deadline. You can do part of a homework set, and return later to finish it. The system will remember your answers from a previous session, as well as your scores.

To log in and do an assignment on WeBWorK, do the following:

1. Go to <http://webwork.math.virginia.edu/>
2. Click on the link for your course and section.
3. Your Username will be your usual UVa e-mail ID, for example abc4e without the @virginia.edu.
4. Your Password is initially set to be the same as your Username. Please change your password as soon as possible.
5. After entering your username and password, click on **Continue**.
6. All currently available problems sets will be displayed. Select a set by clicking on its name. (Sets that are not yet open will not have working links.)
7. Select a problem by clicking on its link. You can also **Download a hardcopy** of the entire assignment.
8. After displaying a problem, fill in the blanks as called for click on **Check Answers**. The system will evaluate your responses, and let you know if you're right or wrong.
9. Note that there is no need to button to submit the entire assignment. Each time you submit an answer, the system updates the status of your assignment.

Mathematical Symbols Available In WeBWorK

- +
- -
- * (Multiplication can also be indicated by a space or juxtaposition, e.g. 2x or 2 x or 2*x, also 2(3+4).)
- /
- ^ or ** (You can use either ^ or ** for exponentiation, e.g. 3^2 or 3**2)
- (
-)

(Over)

Syntax for Entering Expressions

- Be careful entering expressions just as you would be careful entering expressions in a calculator.
- Sometimes using the * symbol to indicate multiplication makes things easier to read. For example $(1+2)*(3+4)$ and $(1+2)(3+4)$ are both valid. So are $3*4$ and $3\ 4$ (3 space 4, not 34) but using a * makes things clearer.
- Use ('s and) 's to make your meaning clear.
- Don't enter $2/4+5$ (which is 5.5) when you really want $2/(4+5)$ (which is $2/9$).
- Don't enter $2/3*4$ (which is $8/3$) when you really want $2/(3*4)$ (which is $2/12$).
- Be careful when entering functions. It's always good practice to use parentheses when entering functions. Write $\sin(t)$ instead of sint or $\sin t$. But WeBWorK is smart enough to accept sint or even sint . But $\sin 2t$ is really $\sin(2)t$, i.e. $(\sin(2))^t$. Be careful.
- Understand that sin^2t is really short hand for $(\sin(t))^2$ and must be entered this way. Actually you could enter it as $\text{sin}(t)^2$ or even sint^2 , but don't try such things unless you really understand the precedence of operations.
- For example $2+3\text{sin}^2(4x)$ is wrong. You need to enter something like: $2+3(\sin(4x))^2$ or $2+3\text{sin}(4x)^2$. Why does the last expression work? Because things in parentheses are always done first [i.e. $(4x)$], next all functions, such as \sin , are evaluated [giving $\sin(4x)$], next all exponents are taken [giving $\text{sin}(4x)^2$], next all multiplications and divisions are performed [giving $3\text{sin}(4x)^2$], and finally all additions and subtractions are performed [giving $2+3\text{sin}(4x)^2$].
- The complete rules for the precedence of operations, in addition to the above, are
 - Multiplications and divisions are performed left to right: $2/3*4 = (2/3)*4 = 8/3$.
 - Additions and subtractions are performed left to right: $1-2+3 = (1-2)+3 = 2$.
 - Exponents are taken right to left: $2^3^4 = 2^(3^4) = 2^81 = \text{a big number}$.
- Use the "Preview Button" to see exactly how your entry looks. E.g. to tell the difference between $1+2/3+4$ and $(1+2)/(3+4)$ click the "Preview Button".
- "e" is the constant 2.71828182845905, e.g. $\ln(e^2)$ is $1 + \ln(2)$

Mathematical Functions Available In WeBWorK

- $\text{abs}()$ The absolute value
- $\text{exp}()$ The same function as e^x
- $\text{log}()$ The natural log
- $\text{ln}()$ Another name for the natural log
- $\text{logten}()$ The log to the base 10
- $\text{sqrt}()$