

Basic WeBWork Syntax

Multiplication

The following examples show various ways to indicate multiplication.

$2*x$, $2x$ and $2 x$ are the same. $x*y$, xy and $x y$ are the same.
 $2\sin(3x)$, $2 \sin(3x)$, $2\sin(3 x)$, and $2 \sin(3 x)$ are all the same as $2*\sin(3*x)$.
 $2 3$ [2 space 3] and $2*3$ are both equal to 6.

Evaluation of Functions

$\sin(x)$ can also be entered as $\sin x$ or as $\sin x$. However, parentheses are more precise. For example: $\sin 3x$ will be read as $\sin(3)*x$ but $\sin(3x)$ is $\sin(3*x)$. Similarly $6/3+3$ will be read as $(6/3)+3$, which is 5, but $6/(3+3)$ will be read as $6/(3+3)$, which is 1.

Exponents

WeBWork uses calculator notation for WeBWork. For example x^2 is x squared and $(\sin(x))^2$ is $\sin(x)$ squared. You can also use $**$ instead of $^$. So $x**2$ is the same as x^2 .

Mathematical Constants

π is the command used to give π . This is 3.14... For example, $\cos(\pi)$ is -1.
 e is the command used to give the value 2.71... For example $\ln(e^2)$ is 2.

Scientific Notation

$2.1E2$ is the same as 210 while $2.1E-2$ is the same as .021. This is again similar to most calculators.

Basic Functions

Absolute value: $\text{abs}()$

Square root: $\text{sqrt}()$

Trigonometric Functions: $\cos()$, $\sin()$, $\tan()$, $\sec()$, $\csc()$, $\cot()$

Note: Trigonometric functions use radians.

Inverse Trigonometric Functions: $\arcsin()$ or $\text{asin}()$, $\arccos()$ or $\text{acos}()$, $\arctan()$ or $\text{atan}()$

The Natural Exponential Function: $\exp()$ is the same as e^x

Logarithms: $\log()$ may be used as log base ten or as the natural log. This may vary from problem to problem

Log Base 10: $\log_{10}()$

Note: You must use the change of base formula to enter logs of other bases.

The Natural Logarithm: $\ln()$

Hyperbolic Functions: $\sinh()$, $\cosh()$

Infinity: Entering infinity varies from problem to problem. Read the directions for each problem carefully.