Entering Math Expressions in LON-CAPA

In general, you will enter math expressions in LON-CAPA like you would on most calculators. Use / for division, $*$ for multiplication and ^ for power. Here are some specific rules that I would like to point out.

1. **Always use * for multiplication to be safe.** When a constant times a variable, * can be omitted. For example, to express $2x$, you can type in either $2x$ or $2*x$. However, when two variables multiply each other, you must use * in between them. For example, to express xy, you have to type in $x*y$. Thus, it is a good practice to always use * for multiplication to be safe.

2. **Use and only use () when needed.** Never use [], <> or {}. For example, to express $\dfrac{1}{2(x-1)+y}$, you should enter $1/(2*(x-1)+y)$, not $1/[2*(x-1)+y]$.

3. **Always use () for the argument of a function.** For example, type $\sin(x)$ instead of $\sin x$. Type $\ln(x)$ instead of $\ln x$.

Below is a list of examples that you will find helpful.

What You Want to Express	**What You Type in LON-CAPA**
does not exist	DNE
infinity, ∞	INF
negative infinity, $-\infty$	-INF
undefined	UNDEFINED
π	pi
$\frac{2x}{y+1}$	$2*x/(y+1)$
x^y	$x\text{^}(y)$
$e^{(x+2)}$	$e\text{^}(x+2)$
$\sqrt{x}$	sqrt(x) or $x\text{^}(1/2)$
$\sqrt[3]{x}$	$x\text{^}(1/3)$
$x^{\frac{2}{5}}$	$x\text{^}(2/5)$
$\ln x$	$\ln(x)$
$\ln \lvert x \rvert$	ln(abs(x))
$\sin x$	$\sin(x)$
$\tan^2 x$	$(\tan(x))\text{^}2$ Extra attention needed on this one.