



Creating Expressions : Part One - Exponents



To do almost anything you will have to enter an expression into LiveMath. Unfortunately, LiveMath does not come with voice recognition, which means you must type in your expression.

LiveMath comes with many templates available on the palette which you can use to enter your expression. You can also create these templates through keyboard shortcuts. Eventually you will need to type. There are several things to keep in mind:

- 1) The arrow keys and the tab key will move you around the templates.
- 2) Use your mouse to position the cursor when all else fails.
- 3) Parentheses will fix many typesetting frustrations.
- 4) Most everything is in the palette. However it may be hidden behind a mini pop-up menu.
- 5) LiveMath is expecting one object to be entered....the smallest object that it can identify. If you want to enter more than one object in a particular position then use parentheses.



Exponents



For instance consider the expression e^{4x} .



You might attempt to enter this as follows



However this will produce :

$$\square e^4 x$$



This is because the exponent position in x^y was expecting one object. When the 4 was initially entered, LiveMath then expected a number to be entered. When LiveMath saw the x it knew this was not part of the number being entered and reasoned that it was part of a new object. As a result it did not place it in the exponent position along with the 4. Instead it went to the next position, which is multiplication of the whole x^y template.



You have to tell LiveMath that you want to add another expression (something with multiple objects) in the exponent position. Parentheses will hold more than one object together in a single position.

Enter the following

e X^Y (4 x

LiveMath will automatically enter in the ending right parenthesis.

e^{4x}



Now you have an exponent with a number and a variable. The parentheses allow a complex expression to be entered into a single position.

Yes! parentheses were used to enter that expression. LiveMath later decided that the parentheses were unnecessary for display purposes and removed them. LiveMath does a lot of cleaning as you work.

Keyboard Shortcut



The \wedge is a keyboard shortcut for X^Y .

e \wedge (4 x

will produce the same expression as

e X^Y (4 x



Now It's Your Turn... Follow the directions below to get hands on experience.



1.

Enter in the following expressions into statements.

1) $e^4 + x$

2) e^{4+x}

3) $2(5^{2-a} - 3)$