



## Declarations :Part One - Manually Defining



You have already seen the use of expression names. You have probably named some expressions yourself. You are free to make up your own names, but LiveMath needs to keep track of what names are currently in use in your notebook.

LiveMath is constantly doing bookkeeping on objects either in use or available in the notebook. When creating a new name, LiveMath needs to know what name is being used and what type of object it is naming.

This is accomplished with Declarations.



### Declarations



Here is a declaration for the variable tree:



A  named tree behaves as .



There are three pieces to a declaration:



#### 1) The type of object this name is attached to.

Here the name tree will be the name of a variable. You can change the type of object for this name via the pop-up menu. If you click the cursor on the box holding the word "variable" a pop-up menu will appear and you can select a different type of object. Variable is the default because most objects people create are variables.

Other objects available include Constant, Matrix, Function, and Operator.



#### 2) The name for the object.

You can edit this name right in the declaration. Just highlight the current name, delete it, and type in the new name.



#### 3) The definition of the object.

Most of the time you will be creating an object and naming it for your own purposes. In this case the object will be "defined by user". This is the default.

However, there are lots of internal functions available to you. You can assign these functions to your own names via the pop-up menu at the end of the declaration.



### Creating new Declarations



There are several ways to create new declarations.



1) You can click on the declaration button  on the palette.

This will place an empty declaration statement directly below the highlighted object or the object holding the cursor.

Of course you can move the definition to another location. In fact if you open up the comment at the top of the notebook you will reveal all of the declarations that come with the default notebook. They have all been collected together and hidden from view



2) You can also insert a new declaration statement via the menus.

In the Notebook Menu there is a SubMenu called Insert New. In the Insert New menu select Name Declaration.

A new declaration statement will appear in the notebook.



3) We'll see the third method in the next notebook.



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



1.

Create a declaration statement for a variable called horse that will be defined by the user.



2.

Create a declaration statement for a function called truck that will be defined by the user.



3.

Create a declaration statement for a function called nearest. Define it to be the internal rounding function. In the pop-up menu find the Numeric Funcs SubMenu. Select "Round to nearest integer".