



Substituting Values Into Expression : Interactive Version



There are two methods for substituting values into expressions. The first one is accomplished by separately assigning values to the variables and then calculating the expression. The second method is accomplished by moving assignments via the mouse.

Here is the second method.



This method will require you to "Drag and Drop" some assignments inside your notebook. You will be "grabbing" a hold of something, "dragging" it to another place in the notebook and then "dropping" it.

Here is the plan.

- 1) Make an assignment for a variable
- 2) Create an expression
- 3) Learn how to drag
- 4) Substitute



Here is an example.



$x = 3$



$x + y + 2x + w + 3w$

$\triangle x + y + 2x + w + 3w = 4w + y + 9$ Substitute



You could not see what I did there, because I was dragging. Let's step through a pictorial example.



Step 1) Create a new statement.

Type $a = 3$

$a = 3$



Step 2) Create a new statement.

Type $a^2 + 2a - 5$

$a = 3$

$a^2 + 2a - 5$

Step 3) Click (left mouse button) your cursor on the equal sign in $a = 3$.

This will highlight the equation.

$a = 3$

$a^2 + 2a - 5$

This is different than clicking on the statement box and highlighting the statement object.

$a = 3$

Step 4) Release the mouse button.

Windows: Press and hold down the **CONTROL** key on your keyboard.

Macintosh: Press and hold down the **COMMAND** key on your keyboard.

Keep holding down that key.

Move your cursor on top of the equal sign.

Click the (left) mouse button and hold the mouse button down.

The cursor will change from an arrow to a pointing hand.

$a = 3$

$a^2 + 2a - 5$

Step 5) Keep pressing down on the key and keep holding the (left) mouse button down.

Step 6) Move your mouse. The pointing hand will "drag" the expression as you go.


$a = 3$

$a^2 + 2a = 5$

Step 7) Drag the $a = 3$ statement down on top of the $a^2 + 2a - 5$ statement. The a's in the second statement will highlight indicating that LiveMath will substitute $a = 3$ into these a's.

$a = 3$

$a^2 + 2a = 5$

 Step 8) Release the mouse button.

Lift your finger off the keyboard key.
LiveMath will make the substitution.

$a = 3$

$a^2 + 2a - 5$

$a^2 + 2a - 5 = 10$ Substitute

The statement may be highlighted.

 Step 9) Click anywhere.

$a = 3$

$a^2 + 2a - 5$

$a^2 + 2a - 5 = 10$ Substitute

The statement will unhighlight.



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



1.

Enter in the following definition into a statement:

$$b = 1$$

Enter in the following expression into a statement:

$$2 + b - 5$$

Drag the $b = 1$ statement onto the $2 + b - 5$ statement and make the substitution.



2.

Substitute $x = 4$ into $\sqrt{x + 5}$.

Substitute $y = 3$ into $\frac{y - 2}{y^2 - 2y + 3}$.

Substitute $z = 0$ into $\cos(z)$.