TI-Nspire™ Handheld Script

Linking variables in Graphs & Geometry (Tutorial B5)

http://www.atomiclearning.com/k12/en/movie/40761/play_window?type=Tutorial&sid=1670

[00:00:00.00]
You can link variables across multiple applications and
views. To demonstrate this, I'll create a new page by

[00:00:08.00]
pressing the Home key, and then choosing Graphs and Geometry.
You can make menu selections by either pressing the corresponding

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number or by using the NavPad and Click key. In this example, I want
to measure a circle using real unit equivalence,

[00:00:24.00]
so the plain geometry view is the view I want to start with. I'll
press the Menu key and then choose View, followed

[00:00:34.00]
by Plan Geometry View. I'll construct my circle by pressing the
menu key and this time choosing Shapes, and then Circle.

[00:00:45.00]
Now I'll place the point of my pencil where I'd like the center of
the circle to be using the NavPad, and then I'll

[00:00:52.00]
press the Click key. Then I'll use the NavPad to move away
from the center until I get the desired radius, and then

[00:01:01.00]
press the Click key again. To measure the radius, I'll press the
Menu key, followed by Measurement, and then Length.

[00:01:11.00]
And then I'll roll over the center of the circle, and then press the
Click key. Next, I'll roll over any point on the

[00:01:20.00]
circumference of the circle, and then click again. To store
that radius as a variable, I'll roll my cursor over the

[00:01:28.00]
radius, and then press the VAR key. I'll choose Store Variable
and call the variable "R" by pressing R on the keypad,

[00:01:37.00]
followed by the Enter key. Now I'll measure the area of the
circle by pressing the Menu key. Then selecting Measurement,

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and this time Area. Again, I'll roll over the circumference of the
circle and click to reveal the area. I'll roll over

[00:01:59.00]
that area, and press the VAR key. Then Store Variable, and
this time I'll call this Area by typing "A-R-E-A" on the

[00:02:13.00]
keypad, and then pressing the Enter key. Now let's look at the
relationship of the radius and the area graphically.

[00:02:21.00]
I'll press Control, and then the Home key, followed by Page Layout,
then Select Layout, and I'll choose Layout2. If

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you need to reposition the circle we drew, just use the NavPad to
move to an empty area of a graph, and then press

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and hold the Click key. Next, just drag it around until you
can see the circle, and then press the Click key again

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to release it. If the right work area isn't highlighted, I'll select
it by pressing Control and then Tab. Now, I'll

[00:03:03.00]
press Menu and select Graphs and Geometry. This time, I'll leave
it in graphing view, and I'll create a point by pressing

[00:03:13.00]
the Menu key. Then choosing Points and Lines. Then Point. I'll
place my cursor in the upper right quadrant and press

[00:03:24.00]
the Click key to create the point. I'll reveal the coordinates
of that point by pressing the Menu key. Then choosing

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Actions, then Coordinates and Equations. Next, I'll press
the Click key to place the coordinates in the graph. I'll

[00:03:46.00]
reposition this graph just like I did with the other one. Use
the NavPad to move to an empty area of the graph and

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then press and hold the Click key. Next, just drag it around until
you can see the positive areas of both X and Y, and

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you can see the coordinates for your point. Then press the Click
key again to release it. Now I'll roll my cursor

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over the X value for my point. Then press the VAR key. I'll
choose Link To, and then select the variable I created called

[00:04:19.00]
"R". Now I've linked the two variables. If I change one it also
changes the other. I'll do the same with my Y value

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by rolling over it. Then pressing the VAR key. Then selecting
Link To, followed by the variable I created called "Area".

[00:04:42.00]
Now I'll press Control, and then Tab to move over to my circle.
Then I'll roll over the circumference. I'll grab

[00:04:54.00]
the circle by pressing and holding the Click key until the cursor
changes, and then I'll drag the circle to resize

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it. Notice that as the radius decreases, the area also decreases,
and my point in the right graph moves closer to .00. When

[00:05:11.00]
I make the radius larger the area also gets larger and the point moves up and to the right.

[00:05:19.00]