

## Linking variables in Graphs & Geometry (Tutorial B6)

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You can link variables across multiple applications and views. To demonstrate this, I'll create a new page by pressing

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the Home key, and then choosing the Geometry icon. You can make menu selections by using the Touchpad and Click

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key. In this example, I want to measure a circle using real unit equivalence. I'll construct my circle by pressing

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the menu key and choosing Shapes, and then Circle. Now I'll place the point of my pencil where I'd like the center

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of the circle to be using the Touchpad, and then I'll press the Click key. Then I'll use the Touchpad to move away

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from the center until I get the desired radius, and then press the Click key again. To measure the radius, I'll

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press the Menu key, followed by Measurement, and then Length, and then I'll roll over the center of the circle, and then

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press the Click key. Next, I'll roll over any point on the circumference of the circle, and then click again. And

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finally, I'll click again outside of my circle. To store that radius as a variable, I'll roll my cursor over the

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radius, and then press the VAR key. I'll choose Store Variable and call the variable "R" by pressing R on the keypad, followed

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by the Enter key. Now I'll measure the area of the circle by pressing the Menu key, then selecting Measurement, and

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

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outside of my circle. I'll roll over that area, and press the VAR key. Then Store Variable, and this time I'll call

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this Area by typing "A-R-E-A" on the keypad, and then pressing the Enter key. Now let's look at the relationship of the

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radius and the area graphically. I'll use the Touchpad to move to the top of the page, and then use the Click

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key to select the black down arrow. I'll choose Page Layout, then Select Layout, and I'll choose Layout2. If you need

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to reposition the circle we drew, just use the Touchpad to move to an empty area of the graph, and then press and

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

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

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and select Add Graphs. I'll create a point by pressing the Menu key. Then choosing Geometry, Points and Lines.

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Then Point. I'll place my cursor in the upper right quadrant and press the Click key to create the point. I'll reveal

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the coordinates of that point by pressing the Menu key. Then choosing Actions, then Coordinates and Equations. Next,

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I'll press the Click key to place the coordinates in the graph. I'll reposition this graph just like I did with

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the other one. Use the Touchpad to move to an empty area of the graph and then press and hold the Click key. Next,

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just drag it around until you can see the positive areas of both X and Y, and you can see the coordinates for your

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point. I'll press the Click key again to release it. Now I'll roll my cursor over the X value for my point. Then

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press the VAR key. I'll choose Link To, and then select the variable I created "R". Now I've linked the two variables.

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If I change one it also changes the other. I'll do the same with my Y value by rolling over it. Then pressing

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the VAR key. Then selecting Link To, followed by the variable I created called "Area". Now I'll press Control, and then

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Tab to move over to my circle. Then I'll roll over the circumference. I'll grab the circle by pressing and holding

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the Click key until the cursor changes, and then I'll drag the circle to resize it. Notice that as the radius decreases,

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the area also decreases, and my point in the right graph moves closer to .00. When I make the radius larger, the



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area also gets larger and the point moves up and to the right.

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