TI-Nspire™ Handheld Script

Combining equations and geometry on the same graph (Tutorial B3)

http://www.atomiclearning.com/k12/en/movie/27956/play_window?type=Tutorial&sid=1670

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It's easy to see the relationship between the equations and geometry in the same application. To demonstrate this, I'll press the Home

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key, and then choose Graphs and Geometry. Next, I'll graph the expression "1/x" and press Enter. Now, I'll press Escape to move

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into the graph itself and out of the entry line. I'm going to adjust the view a bit by using the NavPad to move the pointer

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over the x-axis until the axis flashes, and then I'll use the Grab tool by pressing and holding the Click key until I get the

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grab cursor. Now, use the arrow keys on the NavPad to change the scale of both x and y until I can see my graph a little better.

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You can also press Ctrl and then the Click key to activate the Grab tool. To get out of the Grab tool, I'll press the Click key

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again. Now, I'll take a tangent at an arbitrary point of the curve on the positive side of the x-axis by pressing Menu, then

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Points and Lines, followed by Tangent. Then, I'll click anywhere on that curve to create the tangent. If your tangent point doesn't

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cross both the x and y axes, just resize or rescale your graph by pressing the Escape key, and then changing the scale like we

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did before to make sure the tangent line crosses both axes. Now, I'll create a triangle by pressing Menu, then Shapes, and then

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selecting Triangle. To create the triangle's first point, I'll
roll over the intersection of the tangent line and the y-axis,

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and then press the Click key. I'll create the second point by
rolling over, and clicking on the origin. Finally, I'll create

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the third point by rolling over and clicking on the intersection
of the tangent line and the x-axis. Next, I'll measure the area

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of the triangle by pressing Menu, then choosing Measurement Tools,
followed by Area. Now, I'll roll over a side of the triangle and

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click. Notice that the area of the triangle is exactly 2. Now,
I'll press Escape, then roll over the tangent point on the curve.

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I'll press and hold the Click key in the center of the NavPad
to grab that point, and then use the arrows on the NavPad to drag

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it to change the location of the tangent line. Notice that no
matter how we resize the triangle under the tangent, the area

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remains constant at 2.

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