TI-Nspire™ Software Script

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

http://www.atomiclearning.com/k12/en/movie/28235/play_window?type=Tutorial&sid=1674

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

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Graphs and Geometry application into a new page by clicking Insert,
and then choosing Graphs & Geometry. Next, I'll graph the expression

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"1/x" and press Enter. Now, I'll click in the graph to move out
of the Entry Line, and then adjust the view a bit by moving the

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pointer over the marks on the x-axis, and then I'll click and
drag to change the scale of both x and y until I can see my graph

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a little better. Now, I'll take a tangent at an arbitrary point
on the curve on the positive side of the x-axis by clicking on

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the Points & Lines button on the Application Tool bar, and then
selecting Tangent from the submenu. Then, I'll click anywhere

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on that curve to create the tangent. If your tangent line doesn't
cross both the x and y axes, you can press Escape to move out

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of the Tangent tool and either resize or rescale your graph like
we did before, or roll over the arrows on the tangent line and

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click and drag them out to make sure the tangent line crosses
both axes. Now, I'll create a triangle by clicking on the Shapes

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button and selecting Triangle. To create the triangle's first
point, I'll click on the intersection of the tangent line and

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the y-axis. I'll create the second point by clicking on the origin.
Finally, I'll create the third point by clicking on the intersection

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of the tangent line and the x-axis. Next, I'll measure the area
of the triangle by clicking on the Measurement button, and then selecting

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Area. Now, I'll roll over a side of the triangle and click. Notice
that the area of the triangle is exactly 2. If you can't see the

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area very well in the graph, just click and drag it to a better
location. Now, I'll press Escape and roll over the tangent point

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on the curve, and click and drag to change the location of the
tangent line. Notice that no matter how we resize the triangle

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under the tangent, the area remains constant at 2.

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