

Using Google Forms for Online Assignments and Geogebra as a Tool in Calculus

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Technology Tool Tips

ScribLink - <http://www.scriblink.com/>

SAGE Math - <http://sagemath.org/>

Fun Exercise

Suppose C is a smooth curve in the xy -plane, and there is a point (a,b) so that all normal lines to the curve intersect at (a,b) .

You might naturally say, “The curve is all or part of a _____.”

Use calculus to show this is the case.

Google Forms

- Creating an Account
- Creating a Form
- Student Access
- Automatic Grading `=SUM(IF(C$1:L$1=C2:L2,1,0))`
- Demonstration

Overview of Geogebra

- Java Application
- Simple Mathematics Computation Tool
- Simple Applet Creation Tool
- No Programming Required
- Free and Reasonably Stable

Basic Information

- Website – <http://www.geogebra.org>
- Example applets created with Geogebra (courtesy of Mike May) - <http://www.slu.edu/classes/maymk/GeoGebra/>
- Video demonstrations – <http://www.math.uh.edu/~jmorgan/Rice/>

Examples

- Using Help!!!
- Working with functions
- Graphing a function and its tangent line
- Mean value theorem
- Max/Min Illustrations
- Area between Curves - $\text{Integral}[f(x),g(x),a,b]$
- Lower and Upper Sums - $\text{LowerSum}[f(x),a,b,n]$ and $\text{UpperSum}[f(x),a,b,n]$
- Taylor polynomials - $\text{TaylorPolynomial}[f(x),a,n]$
- Sequences
- Least squares
- Solving systems of equations
- Polar plots
- Quadratic maps
- Matrix maps