

According to the Standards:

Instructional programs from preK-grade 12 should enable students to:

- Recognize and use connections among mathematical ideas
- Use the language of mathematics to express mathematical ideas precisely

In grades 9-12 students should

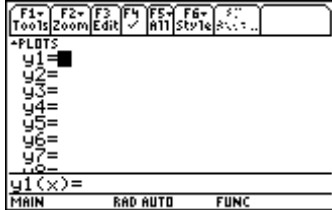
- Students should develop an increased capacity to link mathematical ideas and a deeper understanding of how more than one approach to the same problem can lead to equivalent results.

Calculus Scope and Sequence: Derivatives

Keywords: product rule

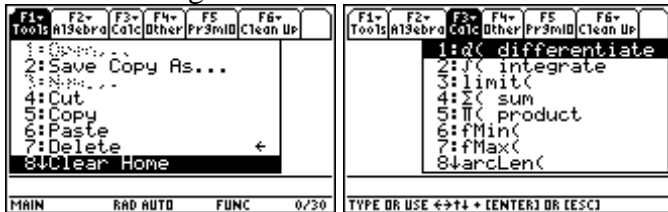
Description: This activity will use the capabilities of the TI-89 to illustrate the symbolic derivative product rule

1. Go to the Y= screen and make sure Y1 and Y2 are empty, we are going to use them both as variables and as function definitions.

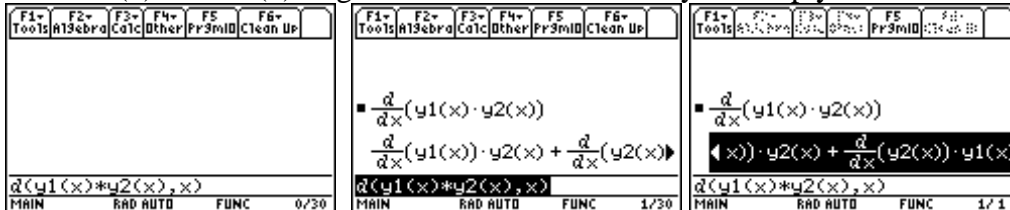


2. Press HOME and go back to the HOME screen (if it's not black press Clear, then F1-8)

3. Press F3 to get the Calculus Menu. Item #1 is the derivative key



4. The syntax for using the derivative key is: $d(\text{function}, \text{variable})$ so we are going to enter Y1(x) and Y2(x) as generic functions since they are empty:

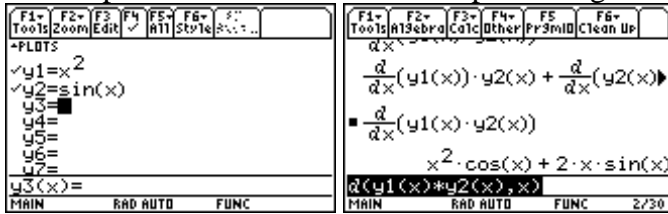


(Use Up Arrow-Right Arrow to scroll for the full result)

5. Go Back to the Y= screen and let $y1 = x^2$ and $y2 = \sin(x)$

Then go back to the HOME screen

Set up and execute the derivative process again



You now can see the general rule on screen at the same time as a specific example of the rule being worked out.