# Calculus Tools TI-89 Flash Application How-To Guide

## **Objectives**

• An overview of using Calculus Tools

### **Materials**

- Computer
- TI Connect computer software
- TI-Graph Link™ cable (gray, black, or silver (USB))
- TI Graphing calculator (TI-89)
- Calculus Tools (TI-89 flash application)

### Other Resources Recommended

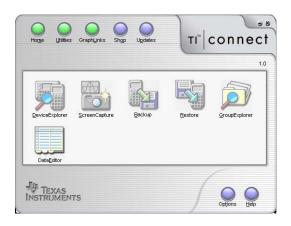
 Internet connection (for device OS updates, flash application updates, and online shopping)

<sup>\*</sup>THIS MATERIAL IS FOR THE PERSONAL USE OF CLASSROOM TEACHERS. TEACHERS ARE GRANTED LIMITED PERMISSION TO COPY HANDOUTS IN REGULAR CLASSROOM QUANTITIES FOR USE WITH STUDENTS IN TEACHERS' REGULAR CLASSES. REQUEST FOR PERMISSION TO FURTHER DUPLICATE OR DISTRIBUTE THIS MATERIAL MUST BE SUBMITTED IN WRITING TO THE T<sup>3</sup> OFFICE.

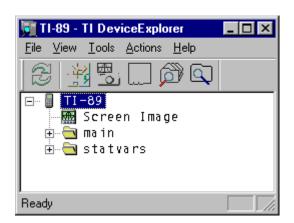
We'll start by assuming that *TI Connect* is installed and that all your hardware (TI device, cable, and computer's communication is working). We will also assume that you have downloaded the flash application *Calclus Tools* to your computer. It can be found on the internet at:

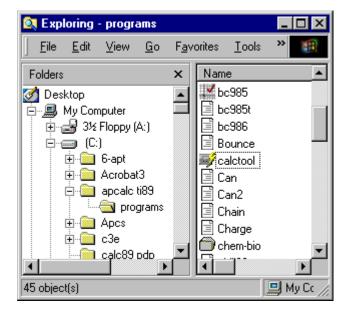
http://education.ti.com/product/tech/89/apps/apps.html

# Link Calculus Tools to your TI-89



- Link your TI-89 to your computer and run *TI Connect* .
- Activate the **DeviceExplorer**
- Open the Windows
   Exploration Tool and browse until you find the Calculus Tools flash application file





• Drag and drop *calctool* from the **Windows Exploration Tool** to *TI-89* in the **Device Explorer.** 

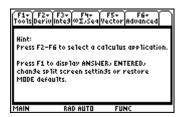
# **Calculus Tools**

Open the flash application *Calculus Tools* on your TI-89:

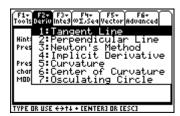
- Press the ♦ APPS.
- Use the cursor movement keys to highlight "Calculus Tools"



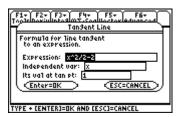
• Press ENTER to activate the application.



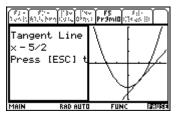
• Press F2 to open the **Derivative** menu.



• Select **1:Tangent Line**. You should see a dialog box with default values filled in.



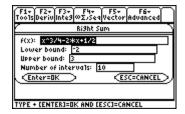
Press ENTER to select these default values. You should see the graph of the function and the tangent line as well as the equation of the tangent line. Press ESC twice to return to the main menu.



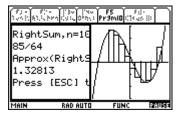
 Press F3 to open the Integral menu. Use the cursor movement keys to highlight 2:Right Sum



Press ENTER to open the Right Sum dialog box.
 The box should be filled with default values.
 Press ENTER to execute the program with these default values.



• You should see the right hand rectangles drawn on the curve and the sum of their areas. Press ESC twice to return to the main menu.



Experiment with your own functions and values for the **Tangent Line** and **Right Sum** features then explore the other items in the main menu.