

Open the InterActive DiffCalc app.

Enter a function, such as  $x^2$ .

Tap onto the Tangent tab.

The function has been drawn in blue, two points on the function have been plotted (D and E, with x-coordinates shown in the top screen), a secant through these points drawn in orange and a tangent to the curve at E drawn in green.

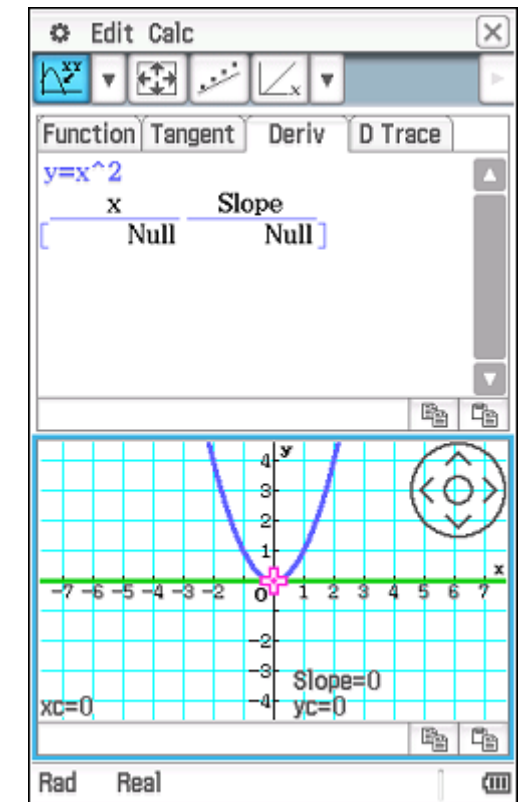
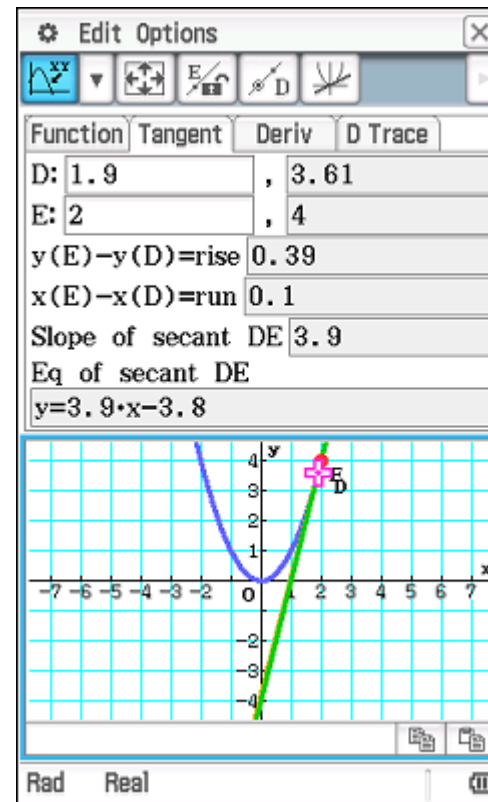
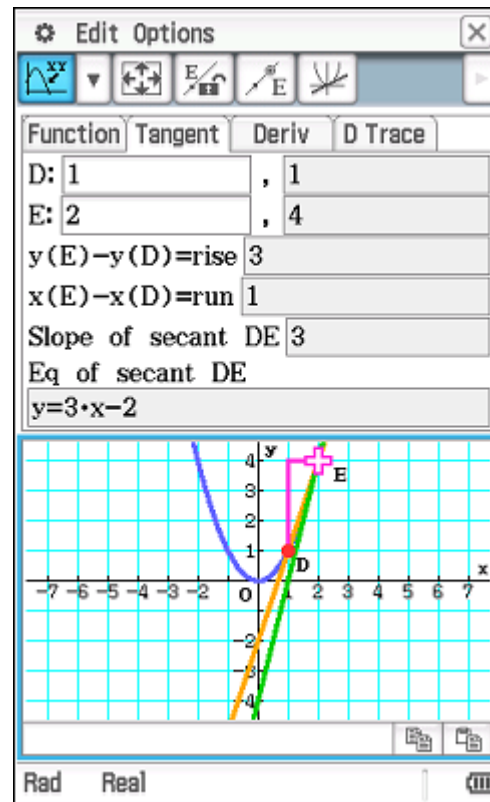
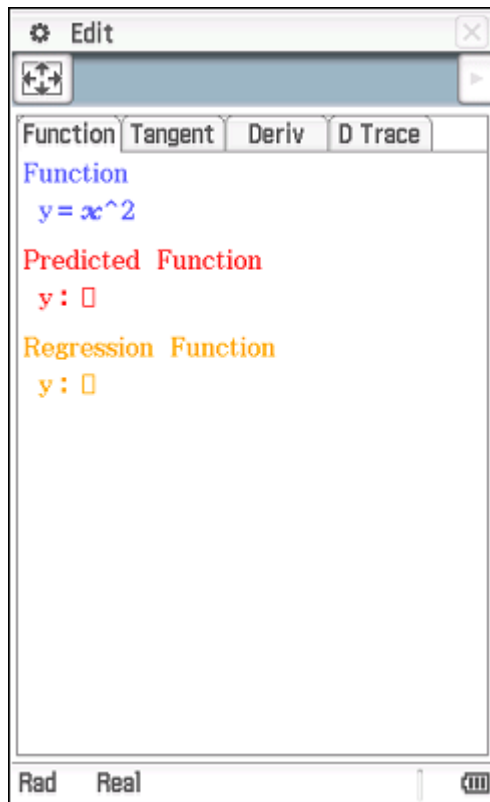
Tap onto point D to select it.

Use the right/left cursor keys to move D closer to E, and observe how the parameters change in the top window.


Note how the secant and tangent behave in the graph window.

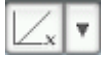
Tap onto the Deriv tab.

We can create a table of slope values.




Move the cursor along the function, tapping EXE to store the x-coordinate and slope of the function at any location in the table in the top window, and to plot the value of the slope in red in the graph window.

Tap  to enter the function that passes through the red slope points and tap OK.

No idea? Tap  to choose from available regression types and see how well ClassPad does at finding a rule for the slope.

Tap onto the D Trace tab.

Tap  to view various combinations of the function, its first derivative (in red) and its second derivative (in magenta).

Tap the cursor left/right and observe the vert orange line (thru x-coord in table) and the values of y1, y2 and y3 change.

