

Series Demos

What the Demos do

You can quickly demonstrate polynomial approximations to the functions in these files. Each file name indicates the function approximated. Any of the files can easily be adapted to other functions of your choice.

These animated demos clearly show the interval of convergence for series with a finite radius of convergence, as well as the increasing accuracy of higher order polynomial approximations for all the functions.

The 2ndOrderConcavity demo shows how changing the coefficient of the x^2 term of a series changes the concavity.

Software Needed

These demos require the Graphing Calculator application which runs on Windows and Mac OS. Graphing Calculator, also known as NuCalc, is available at <http://www.pacifict.com>.

How to Use the files:

- Download the desired file. Double click on it to open. Two windows appear. The top one contains commands and the bottom one the graph.
- Scroll to the bottom of the window containing the graph and find the slider that controls the parameter n .
- Click on the “play” button on the left of the slider (the triangle).
- Watch the animation.
(You can also control the animation manually by dragging the slider.)
- Read the material above the graph to see how the animation is created.

Similar Resource

You might also be interested in the on-line demo at <http://www.plu.edu/~heathdj/%20MathTools/152/java/Taylor.html>.