Robert P. Webber* (webberrp@longwood.edu), Math and Computer Science Department, Longwood University, Farmville, VA 23909. Using Spreadsheets to Help Students Think Recursively.

Spreadsheets lend themselves naturally to recursive computations, since formulas can be defined as functions of one or more preceding cells. A hypothesized closed form for the nth term of a recursive sequence can be tested by using a spreadsheet to compute a large number of the terms recursively. Similarly, a conjecture about the sum of an infinite series can be tested by using a spreadsheet to compute a bunch of partial sums recursively. Once students have some evidence that a closed form is probably not wrong, they can prove it correct using induction. This paper will explore these techniques. (Received September 02, 2007)