

1077-L1-1106 **Theresa Jorgensen***, jorgensen@uta.edu, and **Barbara Shipman**, bshipman@uta.edu. *Try Trisecting by Bisecting.*

We present a guided classroom activity, designed for liberal arts majors, that showcases the classic geometric problem of trisecting an angle. While it is not possible to trisect an arbitrary angle with compass and straightedge, this example explains, in a liberal-arts setting, how this is possible using an infinite sequence of bisections. Considering all of these bisections at once by taking an intersection of appropriately defined geometric objects allows us to trisect the angle. The visual representation of the convergence gives liberal arts students a pictorial context in which they are more comfortable, allowing them to consider the underlying mathematical concepts without becoming entangled in notation. The result shows these students how infinity lends the mathematical power to achieve a feat that by finite methods alone is impossible. (Received September 16, 2011)