Meeting: 1003, Atlanta, Georgia, MAA CP N1, MAA Session on Teaching Visualization Skills

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Visualizations in the Complex Plane with Sketchpad.

The availability within Dynamic Geometry Software of both motion and color as dimensions of representation enables powerful visualizations of operations, relations, and continuous processes in complex analysis. In this presentation, I use Sketchpad's standard tools to develop dynamic visual descriptions of Euler's formula and of the Riemann sphere, and then look briefly at the process of building a custom toolkit within Sketchpad for defining and evaluating complex functions symbolically or geometrically. Then I contrast pre-image/image visualizations of such functions found in the typical descriptive literature to a variety of dynamic representations such as color plots, slope fields, and modular surface plots. (Received September 27, 2004)