

1125-N5-2424

Frank A. Farris* (ffarris@scu.edu), 500 El Camino Real, Dept of Mathematics and Computer Science, Santa Clara, CA 95053. *The Domain-Coloring Algorithm and the Argument Principle.*

The domain-coloring algorithm allows us to visualize complex-valued functions on the plane in a single image, an alternative to before-and-after mapping diagrams. I will review the algorithm and then show a visual discovery/proof of the argument principle, which relates the count of poles and zeros of a meromorphic function inside a contour to the accumulated change in argument of the function around the contour. I connect these ideas to standard learning goals of courses in complex variables. (Received September 20, 2016)