

A Curious Case of Complex Codomain Coloring*

Jake Looney

Undergrad at the University of Tennessee Knoxville

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1 Motivation

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*Completely curtailing the less cumbersome "Domain coloring"

2 Motivation

I ain't gonna lie, I was really high when I wrote the code for this and was trying to just make a domain coloring grapher. I had seen a lot of pictures on Wikipedia using domain coloring and had seen the phrase enough that I decided to just go at it. I was thinking that "domain coloring" would make sense to color the domain and then apply the function. Of course, normal domain coloring works the other way, where you apply the function then color based on where the points land. So, what resulted is the other direction of the usual way to do this: points are colored based on their preimage. This required some thinking, as I wanted to make one that would work with general functions. There's not many reasons to do this: it goes against the standard, its computationally intensive, slow as shit, blocky, imprecise, and only shows one point in the preimage per point in the image. However, despite this, I did discover something pretty interesting while shoving fun functions into it. But first, an explanation of the code.