

Quiz II

Exercise 1. Sketch the region of z in \mathbb{C} satisfying $\operatorname{Im}(z^2) < 0$. Is this region open? Is it connected? Is it a domain?

Exercise 2. Using the definition of limit (don't just plug in i for z), show that

$$\lim_{z \rightarrow i} (z + 3)i = -1 + 3i.$$