

Extra Problems

1. Let $|\cdot| : \mathbb{C} \times \mathbb{C} \rightarrow \mathbb{R}$ be defined as $(a + bi, c + di) \mapsto \sqrt{(a - c)^2 + (b - d)^2}$. Prove that $(\mathbb{C}, |\cdot|)$ is a metric space. I.e., prove $|\cdot|$ is a metric for the complex numbers.