

## 3.5: Complex Logarithms and Complex Powers

Alex L.

October 4, 2024

**Def:** Let  $z = re^{i\theta}$ , then  $\ln z = \ln r + i(\theta)$

**Def:** If  $z, t \in \mathbb{C}$ , then  $z^t = e^{z \ln t}$ .