Some Class
Random Examples

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Contents

Chapter 1

1.1

Polar coordinates on the complex plain can be represented as a complex number. Any polar point (r, θ) can be represented as $r(\cos(\theta) + \sin(\theta))$, or $r\,\mathrm{cis}(\theta)$. Complex numbers are generally written as $z = ...$

The multiplication rule says that for any two complex points, z_1 and z_2, written as $z = r(\mathrm{cis}(\theta))$, $z_1 z_2 = r_1 r_2\,\mathrm{cis}(\theta_1 + \theta_2)$. Conversely, $\frac{z_1}{z_2} = \frac{r_1}{r_2}\,\mathrm{cis}(\theta_1 - \theta_2)$

DeMoivre's Theorem is that $z^n = (r\,\mathrm{cis}(\theta))^n = r^n\,\mathrm{cis}(n\theta)$