

Clase 5

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August 25, 2023

1 Tema

Ejercicios

- Calcular $(-1 + i)^{\frac{1}{3}}$
- Calcular $\left(\frac{\sqrt{3}-i}{\sqrt{3}+i}\right)^4 \left(\frac{1+i}{1-i}\right)^5$
- Resolver $z^2 + (i-1)z - 1 = 0$
Sol.: $z_1 = \frac{1}{2} \left(1 - \frac{1}{\sqrt{2}} \sqrt{\sqrt{20} + 4}\right) + \frac{i}{2} \left(-1 + \frac{1}{\sqrt{2}} \sqrt{\sqrt{20} - 4}\right)$ $\sqrt{w} = |w|^{1/2} \left[\cos \frac{\theta}{2} + i \sin \frac{\theta}{2}\right]$
- Transformar $S : \{z, 1 \leq x \leq 2\}$ con la funcion $F(z) = z^2$
- Transformar $S : \{z, 0 \leq x \leq 1\}$ con la funcion $F(z) = \frac{1}{z+1}$
Sol: $U - \frac{1}{2(1+x_0)} + V^2 = \left(\frac{1}{2(1+x_0)}\right)^2$