Computational Complex Analysis : : Class 14

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Ahmed Saad Sabit, Rice University

Laurent's Theorem

There is going to be a series centered at z_0 and in the proof $z_0 = 0$. So f is holomorphic

$$0 \leq r_1 \leq r_2 \leq \infty$$

For $r_1 < |z| < r_2$ So apply Cauchy's Integral Theorem to $f(z)/z^{n+1}$ in $n \in \mathbb{Z}$. The region will be

$$r_1 < r_1' <$$

$$r_2' < r_2$$

Cauchy Integral Theorem thus region

$$\int_{\text{boundary}} \frac{f(z)}{z^{n+1}} \mathrm{d}z = 0 =$$