

Theorem 1 (Residue theorem). *Let f be analytic in the region G except for the isolated singularities a_1, a_2, \dots, a_m . If γ is a closed rectifiable curve in G which does not pass through any of the points a_k and if $\gamma \approx 0$ in G , then*

$$\frac{1}{2\pi i} \int_{\gamma} f(x^{\mathbf{N} \in \mathbb{C}^{N \times 10}}) = \sum_{k=1}^m n(\gamma; a_k) \operatorname{Res}(f; a_k).$$

Theorem 2 (Maximum modulus). *Let G be a bounded open set in \mathbb{C} and suppose that f is a continuous function on G^- which is analytic in G . Then*

$$\max\{|f(z)| : z \in G^-\} = \max\{|f(z)| : z \in \partial G\}.$$

First some large operators both in text: $\iiint_Q f(x,y,z) \, \mathrm{d}x \, \mathrm{d}y \, \mathrm{d}z$ and $\prod_{\gamma \in \Gamma_{\tilde{C}}} \partial(\tilde{X}_{\gamma})$; and also on display

$$\iiint\limits_Q f(w,x,y,z) \, \mathrm{d}w \, \mathrm{d}x \, \mathrm{d}y \, \mathrm{d}z \leq \oint_{\partial Q} f' \left(\max \left\{ \frac{\|w\|}{|w^2+x^2|}; \frac{\|z\|}{|y^2+z^2|}; \frac{\|w \oplus z\|}{|x \oplus y|} \right\} \right).$$