Theorem 1 (Residue Theorem). Let f be analytic in the region G except for the isolated singularities $a_1, a_2, \ldots, a_m$. 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

$$\operatorname*{Res}_{z=a} f(z) = \operatorname*{Res}_{a} f = \frac{1}{2\pi \mathrm{i}} \int\limits_{C} f(z)\,\mathrm{d}z,$$

where $C \subset D \setminus \{a\}$ is a closed line $n(C, a) = 1$ (e. g. a counterclockwise circle loop).

$\mathrm{A}\Lambda\Delta\nabla\mathrm{BCD}\Sigma\mathrm{EF}\Gamma\mathrm{GHIJ}\mathit{KLMNO}\Theta\Omega\mathrm{P}\Phi\Pi\Xi\mathrm{QRST}\mathit{UVWXY}\Upsilon\Psi\mathrm{Z}$ ABCDabcd1234

$a a b \beta c \partial d \delta e \epsilon \varepsilon f \zeta \xi g \gamma h \hbar \imath i \jmath j k \kappa l \ell \int m n \eta \eth \vartheta o \sigma \varsigma \phi \varphi \wp p \rho \varrho q r s t \tau \pi u \mu \nu \upsilon v w \omega \varpi$

$xyz\infty \propto \emptyset y = f(x)$ $\sum \int \prod \quad \displaystyle\prod \int \sum \quad \textstyle\sum_a^b \int_a^b \prod_a^b \quad \displaystyle\sum_a^b \int\limits_a^b \prod_a^b$