

# A Sample of the XCharter Font

*with Charter from mathdesign as math font*

## 1 Lorem ipsum dolor sit amet

### 1.1 Quisque ullamcorper placerat ipsum

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## 2 Sample page of mathematical typesetting

First some large operators both in text:  $\iiint_{\mathcal{Q}} f(x, y, z) dx dy dz$  and  $\prod_{\gamma \in \Gamma_{\tilde{c}}} \partial(\tilde{X}_{\gamma})$ ; and also on display:

$$\iiint_Q f(w, x, y, z) dw dx dy dz \leq \oint_{\partial Q} f' \left( \max \left\{ \frac{\|w\|}{|w^2 + x^2|}, \frac{\|z\|}{|y^2 + z^2|}, \frac{\|w \oplus z\|}{\|x \oplus y\|} \right\} \right) \\ \approx \bigcup_{Q \in \tilde{Q}} \left[ f^* \left( \frac{\int Q(t)}{\sqrt{1-t^2}} \right) \right]_{t=\alpha}^{t=\theta} \quad (1)$$

For  $x$  in the open interval  $] -1, 1[$  the infinite sum in Equation (2) is convergent; however, this does not hold throughout the closed interval  $[-1, 1]$ .

$$(1-x)^{-k} = 1 + \sum_{j=1}^{\infty} (-1)^j \left\{ \begin{matrix} k \\ j \end{matrix} \right\} x^j \quad \text{for } k \in \mathbb{N}; k \neq 0. \quad (2)$$

**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  $\gamma$  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

$$\frac{1}{2\pi i} \int_{\gamma} f = \sum_{k=1}^m n(\gamma; a_k) \text{Res}(f; a_k).$$

**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

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

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