

Sebastian's math test

The default math mode font is Math Italic. This should not be confused with ordinary *Text Italic* – notice the different spacing! `\mathbf` produces bold roman letters: **abcABC**. If you wish to embolden complete formulas, use the `\boldmath` command *before* going into math mode. This changes the default math fonts to bold.

normal $x = 2\pi \Rightarrow x \simeq 6.28$

mathbf $x = 2\pi \Rightarrow \mathbf{x} \simeq 6.28$

boldmath $x = \mathbf{2\pi} \Rightarrow \mathbf{x} \simeq \mathbf{6.28}$

Greek is available in upper and lower case: $\alpha, \beta \dots \Omega$, and there are special symbols such as \hbar . The following letters should be upright: $\Gamma, \Delta \dots \Omega$. Digits in formulas $1, 2, 3 \dots$ may differ from those in text: 4, 5, 6...

There is a calligraphic alphabet `\mathcal` for upper case letters $\mathcal{A}\mathcal{B}\mathcal{C}\mathcal{D}\mathcal{E} \dots$, and there are letters for number sets: $\mathbb{A} \dots \mathbb{Z}$, which are produced using `\mathbb`.

$$\sigma(t) = \frac{1}{\sqrt{2\pi}} \int_0^t e^{-x^2/2} dx \tag{1}$$

$$\prod_{j\geqslant 0}\left(\sum_{k\geqslant 0}a_{jk}z^k\right)=\sum_{k\geqslant 0}z^n\left(\sum_{\substack{k_0,k_1,\ldots\geqslant 0\\k_0+k_1+\ldots=n}}a_0k_0a_1k_1\ldots\right) \tag{2}$$

$$\pi(n)=\sum_{m=2}^n\left[\left(\sum_{k=1}^{m-1}\left[(m/k)/\lceil m/k\rceil\right]\right)^{-1}\right] \tag{3}$$

$$\underbrace{\overbrace{a,\ldots,a}^{k\text{ }a's},\overbrace{b,\ldots,b}^{l\text{ }b's}}_{k+l\text{ elements}} \tag{4}$$

$$\begin{array}{l} \nearrow \mu^+ + \nu_\mu \\ \rightarrow \pi^+ + \pi^0 \\ \mathbb{W}^+ \\ \rightarrow \kappa^+ + \pi^0 \\ \searrow e^+ + \nu_e \end{array}$$

$$\pm \frac{\begin{vmatrix} x_1-x_2 & y_1-y_2 & z_1-z_2 \\ l_1 & m_1 & n_1 \\ l_2 & m_2 & n_2 \end{vmatrix}}{\sqrt{\left|\begin{vmatrix} l_1 & m_1 \\ l_2 & m_2 \end{vmatrix}\right|^2+\left|\begin{vmatrix} m_1 & n_1 \\ n_1 & l_1 \end{vmatrix}\right|^2+\left|\begin{vmatrix} m_2 & n_2 \\ n_2 & l_2 \end{vmatrix}\right|^2}}$$

Mathematical accents:

acute=á grave=à ddot=¨ tilde=ã bar=ā breve=ă check=ǎ hat=â vec=→ dot=·