Help: Wiki Math

Parsing error resulted in empty content. Displaying raw markup below.

```
The Wiki supports !LaTeX markup:

<math>pi=\frac{3}{4} \sqrt{3}+24 \int_0^{1/4}{\sqrt{x-x^2}dx}</math>

Mathematical Formula (!LaTeX) can be inserted into text like this:
{{{
<math>Insert formula here</math>
}}}

For example:
{{{<math>\alpha^2+\beta^2=1</math>}}}

...displays <math>\alpha^2+\beta^2=1</math>

== Displaying a Formula ==

The Wiki uses a subset of !TeX markup, including some extensions from
!LaTeX and !AMSLaTeX, for mathematical formulae. It generates either P
NG images or simple HTML markup, depending on the complexity of the ex
pression. While it can generate !MathML, it is not currently used due
to limited browser support. As browsers become more advanced and suppo
rt for !MathML becomes more wide-spread, this could be the preferred m
ethod of output as images have very real disadvantages.

=== Syntax ===

Math markup goes inside `<math> ... </math>`.

===Pros of HTML===
 # In-line HTML formulae always align properly with the rest of the HT
ML text.
 # The formula's background, font size and face match the rest of HTML
 contents and the appearance respects CSS and browser settings.
 # Pages using HTML will load faster.

=== Pros of !TeX ===
 # !TeX is semantically superior to HTML. In !TeX, "`x`" means "mathem
atical variable <math>x</math>", whereas in HTML "`x`" could mean anyt
hing. Information has been irrevocably lost.
 # !TeX has been specifically designed for typesetting formulae, so in
put is easier and more natural, and output is more aesthetically pleas
```

```
ing.
 # One consequence of point 1 is that !TeX can be transformed into HTM
L, but not vice-versa. This means that on the server side we can alway
s transform a formula, based on its complexity and location within the
 text, user preferences, type of browser, etc. Therefore, where possib
le, all the benefits of HTML can be retained, together with the benefi
ts of !TeX. It's true that the current situation is not ideal, but tha
t's not a good reason to drop information/contents. It's more a reason
 to [[#Bug_reports|help improve the situation]].
 # Another consequence of point 1 is that !TeX can be converted to !Ma
thML for browsers which support it, thus keeping its semantics and all
owing it to be rendered vectorially.
 # When writing in !TeX, editors need not worry about whether this or
that version of this or that browser supports this or that HTML entity
. The burden of these decisions is put on the server. This doesn't hol
d for HTML formulae, which can easily end up being rendered wrongly or
 differently from the editor's intentions on a different browser.
 # !TeX is the preferred text formatting language of most professional
 mathematicians, scientists, and engineers. It is easier to persuade t
hem to contribute if they can write in !TeX.

=== Example Formulas ===

The following are a few examples of formulas:

{{{
<math>\sqrt{1-e^2}</math>
}}}
<math>\sqrt{1-e^2}</math>

{{{<math>\overbrace{ 1+2+\cdots+100 }^{5050}</math>}}}
<math>\overbrace{ 1+2+\cdots+100 }^{5050}</math>

{{{<math>ax^2 + bx + c = 0</math>}}}
<math>ax^2 + bx + c = 0</math>

{{{<math>\int_{-N}^{N} e^x\, dx</math>}}}
<math>\int_{-N}^{N} e^x\, dx</math>

== Functions, symbols, special characters ==

=== Accents/Diacritics ===

|| `\acute{a} \grave{a} \hat{a} \tilde{a} \breve{a}` || <math>\acute{a
} \grave{a} \hat{a} \tilde{a} \breve{a}</math> ||
|| `\check{a} \bar{a} \ddot{a} \dot{a}` ||<math>\ \check{a} \bar{a} \d
```

```
dot{a} \dot{a}</math> ||

=== Standard functions ===

|| `\sin a \cos b \tan c`|| <math>\ \sin a \cos b \tan c</math> ||
|| `\sec d \csc e \cot f`|| <math>\sec d \csc e \cot f\,\!</math> ||
|| `\arcsin h \arccos i \arctan j`|| <math>\arcsin h \arccos i \arctan
 j\,\!</math> ||
|| `\sinh k \cosh l \tanh m \coth n`|| <math>\ \sinh k \cosh l \tanh m
 \coth n</math> ||
|| `\operatorname{sh}\,o\,\operatorname{ch}\,p\,\operatorname{th}\,q`|
| <math>\ \operatorname{sh}\,o\,\operatorname{ch}\,p\,\operatorname{th
}\,q</math> ||
|| `\operatorname{arsinh}\,r\,\operatorname{arcosh}\,s\,\operatorname{
artanh}\,t`|| <math>\operatorname{arsinh}\,r\,\operatorname{arcosh}\,s
\,\operatorname{artanh}\,t\,\!</math> ||
|| `\lim u \limsup v \liminf w \min x \max y` || <math>\ \lim u \limsu
p v \liminf w \min x \max y</math> ||
|| `\inf z \sup a \exp b \ln c \lg d \log e \log_{10} f \ker g` ||<mat
h>\ \inf z \sup a \exp b \ln c \lg d \log e \log_{10} f \ker g</math>
||
|| `\deg h \gcd i \Pr j \det k \hom l \arg m \dim n` || <math>\deg h \
gcd i \Pr j \det k \hom l \arg m \dim n\,\!</math> ||

=== Modular arithmetic ===

|| `s_k \equiv 0 \pmod{m}` || <math>s_k \equiv 0 \pmod{m}\,\! </math>
||
|| `a\,\bmod\,b` || <math>a\,\bmod\,b\,\!</math> ||

=== Derivatives ===

|| `\nabla \, \partial x \, dx \, \dot x \, \ddot y\, dy/dx\, \frac{dy
}{dx}\, \frac{\partial^2 y}{\partial x_1\,\partial x_2}` || <math>\nab
la \, \partial x \, dx \, \dot x \, \ddot y\, dy/dx\, \frac{dy}{dx}\,
\frac{\partial^2 y}{\partial x_1\,\partial x_2}</math> ||

=== Sets ===

|| `\forall \exists \empty \emptyset \varnothing` || <math>\forall \ex
ists \empty \emptyset \varnothing\,\!</math> ||
|| `\in \ni \not \in \notin \subset \subseteq \supset \supseteq` || <m
ath>\in \ni \not \in \notin \subset \subseteq \supset \supseteq\,\!</m
ath> ||
|| `\cap \bigcap \cup \bigcup \biguplus \setminus \smallsetminus` || <
math>\cap \bigcap \cup \bigcup \biguplus \setminus \smallsetminus\,\!<
```

/math> ||
|| `\sqsubset \sqsubseteq \sqsupset \sqsupseteq \sqcap \sqcup \bigsqcup` || $\sqsubset \sqsubseteq \sqsupset \sqsupseteq \sqcap \sqcup \bigsqcup\,\!$ ||

=== Operators ===

	`+ \oplus \bigoplus \pm \mp - `		$+ \oplus \bigoplus \pm \mp - \,\!$	
	`\times \otimes \bigotimes \cdot \circ \bullet \bigodot`		$\times \otimes \bigotimes \cdot \circ \bullet \bigodot\,\!$	
	`\star * / \div \frac{1}{2}`		$\star * / \div \frac{1}{2}\,\!$	

=== Logic ===
|| `\land (or \and) \wedge \bigwedge \bar{q} \to p` || $\land \wedge \bigwedge \bar{q} \to p\,\!$ ||
|| `\lor \vee \bigvee \lnot \neg q \And` || $\lor \vee \bigvee \lnot \neg q \And\,\!$ ||

=== Root ===

|| `\sqrt{2} \sqrt[n]{x}` || $\sqrt{2} \sqrt[n]{x}\,\!$ ||

=== Relations ===

|| `\sim \approx \simeq \cong \dot=  \overset{\underset{\mathrm{def}}{}}{=}` || $\sim \approx \simeq \cong \dot= \overset{\underset{\mathrm{def}}{}}{=}\,\!$ ||
|| `\le < \ll \gg \ge > \equiv \not\equiv \ne \mbox{or} \neq \propto` || <math>\le < \ll \gg \ge > \equiv \not\equiv \ne \mbox{or} \neq \propto\,\!</math> ||

=== Geometric ===

|| `\Diamond \Box \triangle \angle \perp \mid \nmid \| 45^\circ` || $\Diamond \, \Box \, \triangle \, \angle \perp \, \mid \; \nmid \, \| 45^\circ\,\!$ ||

=== Arrows ===

|| `\leftarrow (or \gets) \rightarrow (or \to) \nleftarrow \not\to \leftrightarrow \nleftrightarrow \longleftarrow \longrightarrow \longleftrightarrow` || $\leftarrow \rightarrow \nleftarrow \not\to \leftrightarrow \nleftrightarrow \longleftarrow \longrightarrow \longleftrightarrow \,\!$ ||

```
|| `\Leftarrow \Rightarrow \nLeftarrow \nRightarrow \Leftrightarrow \n
Leftrightarrow \Longleftarrow \Longrightarrow \Longleftrightarrow (or
\iff)` || <math>\Leftarrow \Rightarrow \nLeftarrow \nRightarrow \Leftr
ightarrow \nLeftrightarrow \Longleftarrow \Longrightarrow \Longleftrig
htarrow \,\!</math> ||
|| `\uparrow \downarrow \updownarrow \Uparrow \Downarrow \Updownarrow
 \nearrow \searrow \swarrow \nwarrow` || <math>\ \uparrow \downarrow \
updownarrow \Uparrow \Downarrow \Updownarrow  \nearrow \searrow \swarr
ow \nwarrow</math> ||
|| `\rightharpoonup \rightharpoondown \leftharpoonup \leftharpoondown
\upharpoonleft \upharpoonright \downharpoonleft \downharpoonright \rig
htleftharpoons \leftrightharpoons` || <math>\rightharpoonup \rightharp
oondown \leftharpoonup \leftharpoondown \upharpoonleft \upharpoonright
 \downharpoonleft \downharpoonright \rightleftharpoons \leftrightharpo
ons \,\!</math> ||
|| `\curvearrowleft \circlearrowleft \Lsh \upuparrows \rightrightarrow
s \rightleftarrows \Rrightarrow \rightarrowtail \looparrowright` || <m
ath>\curvearrowleft \circlearrowleft \Lsh \upuparrows \rightrightarrow
s \rightleftarrows \Rrightarrow \rightarrowtail \looparrowright \,\!</
math> ||
|| `\curvearrowright \circlearrowright \Rsh \downdownarrows \leftlefta
rrows \leftrightarrows \Lleftarrow \leftarrowtail \looparrowleft` || <
math>\curvearrowright \circlearrowright \Rsh \downdownarrows \leftleft
arrows \leftrightarrows \Lleftarrow \leftarrowtail \looparrowleft \,\!
</math> ||
|| `\mapsto \longmapsto \hookrightarrow \hookleftarrow \multimap \left
rightsquigarrow \rightsquigarrow ` || <math>\mapsto \longmapsto \hookr
ightarrow \hookleftarrow \multimap \leftrightsquigarrow \rightsquigarr
ow \,\!</math> ||

=== Special ===

|| `\And \eth \S \P \% \dagger \ddagger \ldots \cdots` || <math>\And \
eth \S \P \% \dagger \ddagger \ldots \cdots\,\!</math> ||
|| `\smile \frown \wr \triangleleft \triangleright \infty \bot \top` |
| <math>\smile \frown \wr \triangleleft \triangleright \infty \bot \to
p\,\!</math> ||
|| `\vdash \vDash \Vdash \models \lVert \rVert \imath \hbar` || <math>
\vdash \vDash \Vdash \models \lVert \rVert \imath \hbar\,\!</math> ||
|| `\ell \mho \Finv \Re \Im \wp \complement` || <math>\ell \mho \Finv
\Re \Im \wp \complement\,\!</math> ||
|| `\diamondsuit \heartsuit \clubsuit \spadesuit \Game \flat \natural
\sharp` || <math>\diamondsuit \heartsuit \clubsuit \spadesuit \Game \f
lat \natural \sharp\,\!</math> ||

=== Unsorted (new stuff) ===
```

	`\vartriangle \triangledown \lozenge \circledS \measuredangle \nexists \Bbbk \backprime \blacktriangle \blacktriangledown`		$\vartriangle \triangledown \lozenge \circledS \measuredangle \nexists \Bbbk \backprime \blacktriangle \blacktriangledown$	
	`\blacksquare \blacklozenge \bigstar \sphericalangle \diagup \diagdown \dotplus \Cap \Cup \barwedge`		$\ \blacksquare \blacklozenge \bigstar \sphericalangle \diagup \diagdown \dotplus \Cap \Cup \barwedge$	
	`\veebar \doublebarwedge \boxminus \boxtimes \boxdot \boxplus \divideontimes \ltimes \rtimes \leftthreetimes`		$\veebar \doublebarwedge \boxminus \boxtimes \boxdot \boxplus \divideontimes \ltimes \rtimes \leftthreetimes$	
	`\rightthreetimes \curlywedge \curlyvee \circleddash \circledast \circledcirc \centerdot \intercal \leqq \leqslant`		$\rightthreetimes \curlywedge \curlyvee \circleddash \circledast \circledcirc \centerdot \intercal \leqq \leqslant$	
	`\eqslantless \lessapprox \approxeq \lessdot \lll \lessgtr \lesseqgtr \lesseqqgtr \doteqdot \risingdotseq`		$\eqslantless \lessapprox \approxeq \lessdot \lll \lessgtr \lesseqgtr \lesseqqgtr \doteqdot \risingdotseq$	
	`\fallingdotseq \backsim \backsimeq \subseteqq \Subset \preccurlyeq \curlyeqprec \precsim \precapprox \vartriangleleft`		$\fallingdotseq \backsim \backsimeq \subseteqq \Subset \preccurlyeq \curlyeqprec \precsim \precapprox \vartriangleleft$	
	`\Vvdash \bumpeq \Bumpeq \geqq \geqslant \eqslantgtr \gtrsim \gtrapprox \eqsim \gtrdot`		$\Vvdash \bumpeq \Bumpeq \geqq \geqslant \eqslantgtr \gtrsim \gtrapprox \eqsim \gtrdot$	
	`\ggg \gtrless \gtreqless \gtreqqless \eqcirc \circeq \triangleq \thicksim \thickapprox \supseteqq`		$\ggg \gtrless \gtreqless \gtreqqless \eqcirc \circeq \triangleq \thicksim \thickapprox \supseteqq$	
	`\Supset \succcurlyeq \curlyeqsucc \succsim \succapprox \vartriangleright \shortmid \shortparallel \between \pitchfork`		$\Supset \succcurlyeq \curlyeqsucc \succsim \succapprox \vartriangleright \shortmid \shortparallel \between \pitchfork$	
	`\varpropto \blacktriangleleft \therefore \backepsilon \blacktriangleright \because \nleqslant \nleqq \lneq \lneqq`		$\varpropto \blacktriangleleft \therefore \backepsilon \blacktriangleright \because \nleqslant \nleqq \lneq \lneqq$	
	`\lvertneqq \lnsim \lnapprox \nprec \npreceq \precneqq \precnsim \precnapprox \nsim \nshortmid`		$\lvertneqq \lnsim \lnapprox \nprec \npreceq \precneqq \precnsim \precnapprox \nsim \nshortmid$	
	`\nvdash \nVdash \ntriangleleft \ntrianglelefteq \nsubseteq \nsubseteqq \varsubsetneq \subsetneqq \varsubsetneqq \ngtr`		<math> \nvdash

\nVdash \ntriangleleft \ntrianglelefteq \nsubseteq \nsubseteqq \varsubsetneq \subsetneqq \varsubsetneqq \ngtr</math> ||
	`\subsetneq`		$\subsetneq$	
	`\ngeqslant \ngeqq \gneq \gneqq \gvertneqq \gnsim \gnapprox \nsucc \nsucceq \succneqq`		$\ngeqslant \ngeqq \gneq \gneqq \gvertneqq \gnsim \gnapprox \nsucc \nsucceq \succneqq$	
	`\succnsim \succnapprox \ncong \nshortparallel \nparallel \nvDash \nVDash \ntriangleright \ntrianglerighteq \nsupseteq`		$\succnsim \succnapprox \ncong \nshortparallel \nparallel \nvDash \nVDash \ntriangleright \ntrianglerighteq \nsupseteq$	
	`\nsupseteqq \varsupsetneq \supsetneqq \varsupsetneqq`		$\nsupseteqq \varsupsetneq \supsetneqq \varsupsetneqq$	
	`\jmath \surd \ast \uplus \diamond \bigtriangleup \bigtriangledown \ominus`		$\jmath \surd \ast \uplus \diamond \bigtriangleup \bigtriangledown \ominus\,\!$	
	`\oslash \odot \bigcirc \amalg \prec \succ \preceq \succeq`		$\oslash \odot \bigcirc \amalg \prec \succ \preceq \succeq\,\!$	
	`\dashv \asymp \doteq \parallel`		$\dashv \asymp \doteq \parallel\,\!$	
	`\ulcorner \urcorner \llcorner \lrcorner`		$\ulcorner \urcorner \llcorner \lrcorner$	

== Larger Expressions ==

=== Parenthesizing big expressions, brackets, bars ===

	'''Feature'''		'''Syntax'''		'''How it looks rendered'''	
	Bad		`( \frac{1}{2} )`		$(\frac{1}{2})$	
	Good		`\left ( \frac{1}{2} \right )`		$\left (\frac{1}{2} \right)$	

You can use various delimiters with \left and \right:

	'''Feature'''		'''Syntax'''		'''How it looks rendered'''	
	Parentheses		`\left ( \frac{a}{b} \right )`		$\left (\frac{a}{b} \right)$	
	Brackets		`\left [ \frac{a}{b} \right ] \quad \left \lbrack \frac{a}{b} \right \rbrack`		$\left [\frac{a}{b} \right] \quad \left \lbrack \frac{a}{b} \right \rbrack$	
	Braces		`\left \{ \frac{a}{b} \right \} \quad \left \lbrace \frac{a}{b} \right \rbrace`		$\left \{ \frac{a}{b} \right \} \quad \left \lbrace \frac{a}{b} \right \rbrace$	
	Angle brackets		`\left \langle \frac{a}{b} \right \rangle`		$\left \langle \frac{a}{b} \right \rangle$	
	Bars and double bars		`\left	\frac{a}{b} \right \vert \left \Ve

rt \frac{c}{d} \right \|` || <math>\left | \frac{a}{b} \right \vert \l
eft \Vert \frac{c}{d} \right \|</math> ||
|| Floor and ceiling functions: || `\left \lfloor \frac{a}{b} \right \
rfloor \left \lceil \frac{c}{d} \right \rceil` || <math>\left \lfloor
\frac{a}{b} \right \rfloor \left \lceil \frac{c}{d} \right \rceil</mat
h> ||
|| Slashes and backslashes || `\left / \frac{a}{b} \right \backslash`
|| $\left / \frac{a}{b} \right \backslash$ ||
|| Up, down and up-down arrows || `\left \uparrow \frac{a}{b} \right \
downarrow \quad \left \Uparrow \frac{a}{b} \right \Downarrow \quad \le
ft \updownarrow \frac{a}{b} \right \Updownarrow` || <math>\left \uparr
ow \frac{a}{b} \right \downarrow \quad \left \Uparrow \frac{a}{b} \rig
ht \Downarrow \quad \left \updownarrow \frac{a}{b} \right \Updownarrow
</math> ||
|| Delimiters can be mixed,[[BR]]as long as \left and \right match ||
`\left [ 0,1 \right )` [[BR]] `\left \langle \psi \right |` || <math>\
left [0,1 \right)</math> [[BR]] <math>\left \langle \psi \right |</m
ath> ||
|| Use \left. and \right. if you don't[[BR]]want a delimiter to appear
: || `\left . \frac{A}{B} \right \} \to X` || <math>\left . \frac{A}{B
} \right \} \to X</math> ||
|| Size of the delimiters || `\big(\Big(\bigg(\Bigg(\dots \Bigg] \
bigg] \Big] \big]/` || <math>\big(\Big(\bigg(\Bigg(\dots \Bigg] \b
igg] \Big] \big]</math> ||
|| . || `\big\{ \Big\{ \bigg\{ \Bigg\{ \dots \Bigg\rangle \bigg\rangle
 \Big\rangle \big\rangle` || <math>\big\{ \Big\{ \bigg\{ \Bigg\{ \dots
 \Bigg\rangle \bigg\rangle \Big\rangle \big\rangle</math> ||
|| . || `\big\| \Big\| \bigg\| \Bigg\| \dots \Bigg| \bigg| \Big| \big|
` || <math>\big\| \Big\| \bigg\| \Bigg\| \dots \Bigg| \bigg| \Big| \bi
g|</math> ||
|| . || `\big\lfloor \Big\lfloor \bigg\lfloor \Bigg\lfloor \dots \Bigg
\rceil \bigg\rceil \Big\rceil \big\rceil` || <math>\big\lfloor \Big\lf
loor \bigg\lfloor \Bigg\lfloor \dots \Bigg\rceil \bigg\rceil \Big\rcei
l \big\rceil</math> ||
|| . || `\big\uparrow \Big\uparrow \bigg\uparrow \Bigg\uparrow \dots \
Bigg\Downarrow \bigg\Downarrow \Big\Downarrow \big\Downarrow` || <math
>\big\uparrow \Big\uparrow \bigg\uparrow \Bigg\uparrow \dots \Bigg\Dow
narrow \bigg\Downarrow \Big\Downarrow \big\Downarrow</math> ||
|| . || `\big\updownarrow \Big\updownarrow \bigg\updownarrow \Bigg\upd
ownarrow \dots \Bigg\Updownarrow \bigg\Updownarrow \Big\Updownarrow \b
ig\Updownarrow` || <math>\big\updownarrow \Big\updownarrow \bigg\updow
narrow \Bigg\updownarrow \dots \Bigg\Updownarrow \bigg\Updownarrow \Bi
g\Updownarrow \big\Updownarrow</math> ||
|| . || `\big / \Big / \bigg / \Bigg / \dots \Bigg\backslash \bigg\bac
kslash \Big\backslash \big\backslash` || <math>\big / \Big / \bigg / \
Bigg / \dots \Bigg\backslash \bigg\backslash \Big\backslash \big\backs

```
lash</math> ||

== Alphabets and typefaces ==

Texvc cannot render arbitrary Unicode characters. Those it can handle
can be entered by the expressions below. For others, such as Cyrillic,
 they can be entered as Unicode or HTML entities in running text, but
cannot be used in displayed formulas.

||_\2. '''Greek alphabet''' ||
|| `\Alpha \Beta \Gamma \Delta \Epsilon \Zeta` || <math>\Alpha \Beta \
Gamma \Delta \Epsilon \Zeta \,\!</math> ||
|| `\Eta \Theta \Iota \Kappa \Lambda \Mu` || <math>\Eta \Theta \Iota \
Kappa \Lambda \Mu \,\!</math> ||
|| `\Nu \Xi \Pi \Rho \Sigma \Tau` || <math>\Nu \Xi \Pi \Rho \Sigma \Ta
u\,\!</math> ||
|| `\Upsilon \Phi \Chi \Psi \Omega` || <math>\Upsilon \Phi \Chi \Psi \
Omega \,\!</math> ||
|| `\alpha \beta \gamma \delta \epsilon \zeta` || <math>\alpha \beta \
gamma \delta \epsilon \zeta \,\!</math> ||
|| `\eta \theta \iota \kappa \lambda \mu` || <math>\eta \theta \iota \
kappa \lambda \mu \,\!</math> ||
|| `\nu \xi \pi \rho \sigma \tau` || <math>\nu \xi \pi \rho \sigma \ta
u \,\!</math> ||
|| `\upsilon \phi \chi \psi \omega` || <math>\upsilon \phi \chi \psi \
omega \,\!</math> ||
|| `\varepsilon \digamma \vartheta \varkappa` || <math>\varepsilon \di
gamma \vartheta \varkappa \,\!</math> ||
|| `\varpi \varrho \varsigma \varphi` || <math>\varpi \varrho \varsigm
a \varphi\,\!</math> ||
||_\2. '''Blackboard Bold/Scripts''' ||
|| `\mathbb{A} \mathbb{B} \mathbb{C} \mathbb{D} \mathbb{E} \mathbb{F}
\mathbb{G}` || <math>\mathbb{A} \mathbb{B} \mathbb{C} \mathbb{D} \math
bb{E} \mathbb{F} \mathbb{G} \,\!</math> ||
|| `\mathbb{H} \mathbb{I} \mathbb{J} \mathbb{K} \mathbb{L} \mathbb{M}`
 || <math>\mathbb{H} \mathbb{I} \mathbb{J} \mathbb{K} \mathbb{L} \math
bb{M} \,\!</math> ||
|| `\mathbb{N} \mathbb{O} \mathbb{P} \mathbb{Q} \mathbb{R} \mathbb{S}
\mathbb{T}` || <math>\mathbb{N} \mathbb{O} \mathbb{P} \mathbb{Q} \math
bb{R} \mathbb{S} \mathbb{T} \,\!</math> ||
|| `\mathbb{U} \mathbb{V} \mathbb{W} \mathbb{X} \mathbb{Y} \mathbb{Z}`
 || <math>\mathbb{U} \mathbb{V} \mathbb{W} \mathbb{X} \mathbb{Y} \math
bb{Z}\,\!</math> ||
||_\2. '''boldface (vectors)''' ||
|| `\mathbf{A} \mathbf{B} \mathbf{C} \mathbf{D} \mathbf{E} \mathbf{F}
\mathbf{G}` || <math>\mathbf{A} \mathbf{B} \mathbf{C} \mathbf{D} \math
```

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bf{E} \mathbf{F} \mathbf{G} \,\!</math> ||
|| `\mathbf{H} \mathbf{I} \mathbf{J} \mathbf{K} \mathbf{L} \mathbf{M}`
 || <math>\mathbf{H} \mathbf{I} \mathbf{J} \mathbf{K} \mathbf{L} \math
bf{M} \,\!</math> ||
|| `\mathbf{N} \mathbf{O} \mathbf{P} \mathbf{Q} \mathbf{R} \mathbf{S}
\mathbf{T}` || <math>\mathbf{N} \mathbf{O} \mathbf{P} \mathbf{Q} \math
bf{R} \mathbf{S} \mathbf{T} \,\!</math> ||
|| `\mathbf{U} \mathbf{V} \mathbf{W} \mathbf{X} \mathbf{Y} \mathbf{Z}`
 || <math>\mathbf{U} \mathbf{V} \mathbf{W} \mathbf{X} \mathbf{Y} \math
bf{Z} \,\!</math> ||
|| `\mathbf{a} \mathbf{b} \mathbf{c} \mathbf{d} \mathbf{e} \mathbf{f}
\mathbf{g}` || <math>\mathbf{a} \mathbf{b} \mathbf{c} \mathbf{d} \math
bf{e} \mathbf{f} \mathbf{g} \,\!</math> ||
|| `\mathbf{h} \mathbf{i} \mathbf{j} \mathbf{k} \mathbf{l} \mathbf{m}`
 || <math>\mathbf{h} \mathbf{i} \mathbf{j} \mathbf{k} \mathbf{l} \math
bf{m} \,\!</math> ||
|| `\mathbf{n} \mathbf{o} \mathbf{p} \mathbf{q} \mathbf{r} \mathbf{s}
\mathbf{t}` || <math>\mathbf{n} \mathbf{o} \mathbf{p} \mathbf{q} \math
bf{r} \mathbf{s} \mathbf{t} \,\!</math> ||
|| `\mathbf{u} \mathbf{v} \mathbf{w} \mathbf{x} \mathbf{y} \mathbf{z}`
 || <math>\mathbf{u} \mathbf{v} \mathbf{w} \mathbf{x} \mathbf{y} \math
bf{z} \,\!</math> ||
|| `\mathbf{0} \mathbf{1} \mathbf{2} \mathbf{3} \mathbf{4}` || <math>\
mathbf{0} \mathbf{1} \mathbf{2} \mathbf{3} \mathbf{4} \,\!</math> ||
|| `\mathbf{5} \mathbf{6} \mathbf{7} \mathbf{8} \mathbf{9}` || <math>\
mathbf{5} \mathbf{6} \mathbf{7} \mathbf{8} \mathbf{9}\,\!</math> ||
||_\2. '''Boldface (greek)''' ||
|| `\boldsymbol{\Alpha} \boldsymbol{\Beta} \boldsymbol{\Gamma} \boldsy
mbol{\Delta} \boldsymbol{\Epsilon} \boldsymbol{\Zeta}` || <math>\bolds
ymbol{\Alpha} \boldsymbol{\Beta} \boldsymbol{\Gamma} \boldsymbol{\Delt
a} \boldsymbol{\Epsilon} \boldsymbol{\Zeta} \,\!</math> ||
|| `\boldsymbol{\Eta} \boldsymbol{\Theta} \boldsymbol{\Iota} \boldsymb
ol{\Kappa} \boldsymbol{\Lambda} \boldsymbol{\Mu}` || <math>\boldsymbol
{\Eta} \boldsymbol{\Theta} \boldsymbol{\Iota} \boldsymbol{\Kappa} \bol
dsymbol{\Lambda} \boldsymbol{\Mu}\,\!</math> ||
|| `\boldsymbol{\Nu} \boldsymbol{\Xi} \boldsymbol{\Pi} \boldsymbol{\Rh
o} \boldsymbol{\Sigma} \boldsymbol{\Tau}` || <math>\boldsymbol{\Nu} \b
oldsymbol{\Xi} \boldsymbol{\Pi} \boldsymbol{\Rho} \boldsymbol{\Sigma}
\boldsymbol{\Tau}\,\!</math> ||
|| `\boldsymbol{\Upsilon} \boldsymbol{\Phi} \boldsymbol{\Chi} \boldsym
bol{\Psi} \boldsymbol{\Omega}` || <math>\boldsymbol{\Upsilon} \boldsym
bol{\Phi} \boldsymbol{\Chi} \boldsymbol{\Psi} \boldsymbol{\Omega}\,\!<
/math> ||
|| `\boldsymbol{\alpha} \boldsymbol{\beta} \boldsymbol{\gamma} \boldsy
mbol{\delta} \boldsymbol{\epsilon} \boldsymbol{\zeta}` || <math>\bolds
ymbol{\alpha} \boldsymbol{\beta} \boldsymbol{\gamma} \boldsymbol{\delt
```

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a} \boldsymbol{\epsilon} \boldsymbol{\zeta}\,\!</math> ||
|| `\boldsymbol{\eta} \boldsymbol{\theta} \boldsymbol{\iota} \boldsymb
ol{\kappa} \boldsymbol{\lambda} \boldsymbol{\mu}` || <math>\boldsymbol
{\eta} \boldsymbol{\theta} \boldsymbol{\iota} \boldsymbol{\kappa} \bol
dsymbol{\lambda} \boldsymbol{\mu}\,\!</math> ||
|| `\boldsymbol{\nu} \boldsymbol{\xi} \boldsymbol{\pi} \boldsymbol{\rh
o} \boldsymbol{\sigma} \boldsymbol{\tau}` || <math>\boldsymbol{\nu} \b
oldsymbol{\xi} \boldsymbol{\pi} \boldsymbol{\rho} \boldsymbol{\sigma}
\boldsymbol{\tau}\,\!</math> ||
|| `\boldsymbol{\upsilon} \boldsymbol{\phi} \boldsymbol{\chi} \boldsym
bol{\psi} \boldsymbol{\omega}` || <math>\boldsymbol{\upsilon} \boldsym
bol{\phi} \boldsymbol{\chi} \boldsymbol{\psi} \boldsymbol{\omega}\,\!<
/math> ||
|| `\boldsymbol{\varepsilon} \boldsymbol{\digamma} \boldsymbol{\varthe
ta} \boldsymbol{\varkappa}` || <math>\boldsymbol{\varepsilon} \boldsym
bol{\digamma} \boldsymbol{\vartheta} \boldsymbol{\varkappa} \,\!</math
> ||
|| `\boldsymbol{\varpi} \boldsymbol{\varrho} \boldsymbol{\varsigma} \b
oldsymbol{\varphi}` || <math>\boldsymbol{\varpi} \boldsymbol{\varrho}
\boldsymbol{\varsigma} \boldsymbol{\varphi}\,\!</math> ||
||_\2. '''Italics''' ||
|| `\mathit{A} \mathit{B} \mathit{C} \mathit{D} \mathit{E} \mathit{F}
\mathit{G}` || <math>\mathit{A} \mathit{B} \mathit{C} \mathit{D} \math
it{E} \mathit{F} \mathit{G} \,\!</math> ||
|| `\mathit{H} \mathit{I} \mathit{J} \mathit{K} \mathit{L} \mathit{M}`
 || <math>\mathit{H} \mathit{I} \mathit{J} \mathit{K} \mathit{L} \math
it{M} \,\!</math> ||
|| `\mathit{N} \mathit{O} \mathit{P} \mathit{Q} \mathit{R} \mathit{S}
\mathit{T}` || <math>\mathit{N} \mathit{O} \mathit{P} \mathit{Q} \math
it{R} \mathit{S} \mathit{T} \,\!</math> ||
|| `\mathit{U} \mathit{V} \mathit{W} \mathit{X} \mathit{Y} \mathit{Z}`
 || <math>\mathit{U} \mathit{V} \mathit{W} \mathit{X} \mathit{Y} \math
it{Z} \,\!</math> ||
|| `\mathit{a} \mathit{b} \mathit{c} \mathit{d} \mathit{e} \mathit{f}
\mathit{g}` || <math>\mathit{a} \mathit{b} \mathit{c} \mathit{d} \math
it{e} \mathit{f} \mathit{g} \,\!</math> ||
|| `\mathit{h} \mathit{i} \mathit{j} \mathit{k} \mathit{l} \mathit{m}`
 || <math>\mathit{h} \mathit{i} \mathit{j} \mathit{k} \mathit{l} \math
it{m} \,\!</math> ||
|| `\mathit{n} \mathit{o} \mathit{p} \mathit{q} \mathit{r} \mathit{s}
\mathit{t}` || <math>\mathit{n} \mathit{o} \mathit{p} \mathit{q} \math
it{r} \mathit{s} \mathit{t} \,\!</math> ||
|| `\mathit{u} \mathit{v} \mathit{w} \mathit{x} \mathit{y} \mathit{z}`
 || <math>\mathit{u} \mathit{v} \mathit{w} \mathit{x} \mathit{y} \math
it{z} \,\!</math> ||
|| `\mathit{0} \mathit{1} \mathit{2} \mathit{3} \mathit{4}` || <math>\
```

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mathit{0} \mathit{1} \mathit{2} \mathit{3} \mathit{4} \,\!</math> ||
|| `\mathit{5} \mathit{6} \mathit{7} \mathit{8} \mathit{9}` || <math>\
mathit{5} \mathit{6} \mathit{7} \mathit{8} \mathit{9}\,\!</math> ||
||_\2. '''Roman typeface''' ||
|| `\mathrm{A} \mathrm{B} \mathrm{C} \mathrm{D} \mathrm{E} \mathrm{F}
\mathrm{G}` || <math>\mathrm{A} \mathrm{B} \mathrm{C} \mathrm{D} \math
rm{E} \mathrm{F} \mathrm{G} \,\!</math> ||
|| `\mathrm{H} \mathrm{I} \mathrm{J} \mathrm{K} \mathrm{L} \mathrm{M}`
 || <math>\mathrm{H} \mathrm{I} \mathrm{J} \mathrm{K} \mathrm{L} \math
rm{M} \,\!</math> ||
|| `\mathrm{N} \mathrm{O} \mathrm{P} \mathrm{Q} \mathrm{R} \mathrm{S}
\mathrm{T}` || <math>\mathrm{N} \mathrm{O} \mathrm{P} \mathrm{Q} \math
rm{R} \mathrm{S} \mathrm{T} \,\!</math> ||
|| `\mathrm{U} \mathrm{V} \mathrm{W} \mathrm{X} \mathrm{Y} \mathrm{Z}`
 || <math>\mathrm{U} \mathrm{V} \mathrm{W} \mathrm{X} \mathrm{Y} \math
rm{Z} \,\!</math> ||
|| `\mathrm{a} \mathrm{b} \mathrm{c} \mathrm{d} \mathrm{e} \mathrm{f}
\mathrm{g}` || <math>\mathrm{a} \mathrm{b} \mathrm{c} \mathrm{d} \math
rm{e} \mathrm{f} \mathrm{g}\,\!</math> ||
|| `\mathrm{h} \mathrm{i} \mathrm{j} \mathrm{k} \mathrm{l} \mathrm{m}`
 || <math>\mathrm{h} \mathrm{i} \mathrm{j} \mathrm{k} \mathrm{l} \math
rm{m} \,\!</math> ||
|| `\mathrm{n} \mathrm{o} \mathrm{p} \mathrm{q} \mathrm{r} \mathrm{s}
\mathrm{t}` || <math>\mathrm{n} \mathrm{o} \mathrm{p} \mathrm{q} \math
rm{r} \mathrm{s} \mathrm{t} \,\!</math> ||
|| `\mathrm{u} \mathrm{v} \mathrm{w} \mathrm{x} \mathrm{y} \mathrm{z}`
 || <math>\mathrm{u} \mathrm{v} \mathrm{w} \mathrm{x} \mathrm{y} \math
rm{z} \,\!</math> ||
|| `\mathrm{0} \mathrm{1} \mathrm{2} \mathrm{3} \mathrm{4}` || <math>\
mathrm{0} \mathrm{1} \mathrm{2} \mathrm{3} \mathrm{4} \,\!</math> ||
|| `\mathrm{5} \mathrm{6} \mathrm{7} \mathrm{8} \mathrm{9}` || <math>\
mathrm{5} \mathrm{6} \mathrm{7} \mathrm{8} \mathrm{9}\,\!</math> ||
||_\2. '''Fraktur typeface''' ||
|| `\mathfrak{A} \mathfrak{B} \mathfrak{C} \mathfrak{D} \mathfrak{E} \
mathfrak{F} \mathfrak{G}` || <math>\mathfrak{A} \mathfrak{B} \mathfrak
{C} \mathfrak{D} \mathfrak{E} \mathfrak{F} \mathfrak{G} \,\!</math> ||
|| `\mathfrak{H} \mathfrak{I} \mathfrak{J} \mathfrak{K} \mathfrak{L} \
mathfrak{M}` || <math>\mathfrak{H} \mathfrak{I} \mathfrak{J} \mathfrak
{K} \mathfrak{L} \mathfrak{M} \,\!</math> ||
|| `\mathfrak{N} \mathfrak{O} \mathfrak{P} \mathfrak{Q} \mathfrak{R} \
mathfrak{S} \mathfrak{T}` || <math>\mathfrak{N} \mathfrak{O} \mathfrak
{P} \mathfrak{Q} \mathfrak{R} \mathfrak{S} \mathfrak{T} \,\!</math> ||
|| `\mathfrak{U} \mathfrak{V} \mathfrak{W} \mathfrak{X} \mathfrak{Y} \
mathfrak{Z}` || <math>\mathfrak{U} \mathfrak{V} \mathfrak{W} \mathfrak
{X} \mathfrak{Y} \mathfrak{Z} \,\!</math> ||
|| `\mathfrak{a} \mathfrak{b} \mathfrak{c} \mathfrak{d} \mathfrak{e} \
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mathfrak{f} \mathfrak{g}` || <math>\mathfrak{a} \mathfrak{b} \mathfrak
{c} \mathfrak{d} \mathfrak{e} \mathfrak{f} \mathfrak{g} \,\!</math> ||
|| `\mathfrak{h} \mathfrak{i} \mathfrak{j} \mathfrak{k} \mathfrak{l} \
mathfrak{m}` || <math>\mathfrak{h} \mathfrak{i} \mathfrak{j} \mathfrak
{k} \mathfrak{l} \mathfrak{m} \,\!</math> ||
|| `\mathfrak{n} \mathfrak{o} \mathfrak{p} \mathfrak{q} \mathfrak{r} \
mathfrak{s} \mathfrak{t}` || <math>\mathfrak{n} \mathfrak{o} \mathfrak
{p} \mathfrak{q} \mathfrak{r} \mathfrak{s} \mathfrak{t} \,\!</math> ||
|| `\mathfrak{u} \mathfrak{v} \mathfrak{w} \mathfrak{x} \mathfrak{y} \
mathfrak{z}` || <math>\mathfrak{u} \mathfrak{v} \mathfrak{w} \mathfrak
{x} \mathfrak{y} \mathfrak{z} \,\!</math> ||
|| `\mathfrak{0} \mathfrak{1} \mathfrak{2} \mathfrak{3} \mathfrak{4}`
|| <math>\mathfrak{0} \mathfrak{1} \mathfrak{2} \mathfrak{3} \mathfrak
{4} \,\!</math> ||
|| `\mathfrak{5} \mathfrak{6} \mathfrak{7} \mathfrak{8} \mathfrak{9}`
|| <math>\mathfrak{5} \mathfrak{6} \mathfrak{7} \mathfrak{8} \mathfrak
{9}\,\!</math> ||
||_\2. '''Calligraphy/Script''' ||
|| `\mathcal{A} \mathcal{B} \mathcal{C} \mathcal{D} \mathcal{E} \mathc
al{F} \mathcal{G}` || <math>\mathcal{A} \mathcal{B} \mathcal{C} \mathc
al{D} \mathcal{E} \mathcal{F} \mathcal{G} \,\!</math> ||
|| `\mathcal{H} \mathcal{I} \mathcal{J} \mathcal{K} \mathcal{L} \mathc
al{M}` || <math>\mathcal{H} \mathcal{I} \mathcal{J} \mathcal{K} \mathc
al{L} \mathcal{M} \,\!</math> ||
|| `\mathcal{N} \mathcal{O} \mathcal{P} \mathcal{Q} \mathcal{R} \mathc
al{S} \mathcal{T}` || <math>\mathcal{N} \mathcal{O} \mathcal{P} \mathc
al{Q} \mathcal{R} \mathcal{S} \mathcal{T} \,\!</math> ||
|| `\mathcal{U} \mathcal{V} \mathcal{W} \mathcal{X} \mathcal{Y} \mathc
al{Z}` || <math>\mathcal{U} \mathcal{V} \mathcal{W} \mathcal{X} \mathc
al{Y} \mathcal{Z}\,\!</math> ||
||_\2. '''Hebrew''' ||
|| `\aleph \beth \gimel \daleth` || <math>\aleph \beth \gimel \daleth\
,\!</math> ||

== Formatting issues ==

=== Spacing ===

Note that !TeX handles most spacing automatically, but you may sometim
es want manual control.

	'''Feature'''		'''Syntax'''		'''How it looks rendered'''	
	double quad space		a \qquad b		$a \qquad b$	
	quad space		a \quad b		$a \quad b$	
	text space		a\ b		$a\ b$	
	text space without PNG conversion		a \mbox{ } b		<math>a \mbox{

```
 } b</math> ||
|| large space || a\;b || <math>a\;b</math> ||
|| medium space || a\&gt;b || (not supported) ||
|| small space || a\,b || <math>a\,b</math> ||
|| no space || ab || <math>ab\,</math> ||
|| small negative space || a\!b || <math>a\!b</math> ||
```