LaTeX Math Symbols

Prepared by L. Kocbach, on the basis of this document (origin: David Carlisle, Manchester University)

File A.tex contains all necessary code

This file is prepared by running

latex A.tex

and cutting the pictures out of the resulting preview. Relevant parts of the latex code are reproduced under each of the pictures. Some of the symbols have an explanatory text. This text is found in the latex code, mostly stating that they are parts of some spacial setup and cannot be used in standard LaTeX. Each of the figures also has a link to itself.

Greek Letters

α β γ δ ϵ ϵ ζ	\alpha \beta \gamma \delta \epsilon \varepsilon \zeta \eta	θ ϑ γ κ λ μ υ ξ	<pre>\theta \vartheta \gamma \kappa \lambda \mu \nu \xi</pre>	ο π π ρ ρ σ ς	o \pi \varpi \rho \varrho \sigma \varsigma	τ υ φ γ χ ψ	<pre>\tau \upsilon \phi \varphi \chi \psi \omega</pre>
Γ Δ Θ	\Gamma \Delta \Theta	л Е П	\Lambda \Xi \Pi	Σ Υ Φ	\Sigma \Upsilon \Phi	Ψ	\Psi \Omega

Table 1: Greek Letters

t1.gif

\alpha \beta \gamma \delta \epsilon \varepsilon \zeta \eta	\theta \vartheta \gamma \kappa \lambda \mu \nu \xi	o \pi \varpi \rho \varrho \sigma \varsigma	\tau \upsilon \phi \varphi \chi \psi \omega
\Gamma \Delta \Theta	\Lambda \Xi \Pi	\Sigma \Upsilon \Phi	\Psi \Omega

Binary Operation Symbols

±	\p m	Λ	\cap		⋄	\diamond		⊕	\oplus
干	/mp	U	\cup		Δ	\bigtria	ng⊥eup	θ	\ominus
X	\times	₩	\uplus		∇	\bigtria	ngledown	8	\otimes
*	\div	П	\sqcap		∢	\triangl	eleft	0	\oslash
*	\ast	\sqcup	\sqcup		⊳	\triangl	eright	\odot	\odot
*	\star	٧	\vee		◁	$\backslash \mathtt{lhd}^b$		0	\bigcirc
٥	\circ	Λ	\wedge		\triangleright	$ackslash{ exttt{rhd}}^b$		†	\dagger
•	\bullet	\	\setmin	us	⊴	$ackslash{\mathtt{unlhd}^b}$		‡	\ddagger
	\cdot	l	\wr		⊵	$ackslash{\mathtt{unrhd}}^b$		\mathbf{II}	\amalg
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Relation Symbols

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t3.gif
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 \prec
                   \succ
                                     \sim
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                                                       \mid
 \preceq
                   \succeq
                                     \simeq
                                                       \parallel
 \11
                   \gg
                                     \asymp
 \subset
                   \supset
                                     \approx
                                                       \bowtie
                                                       \Join$^b$
 \subseteq
                   \supseteq
                                     \cong
 \sqsubset$^b$
                   \sqsupset$^b$
                                     \neq
                                                       \smile
                   \sqsupseteq
 \sqsubseteq
                                     \doteq
                                                       \frown
 \in
                   \ni
                                     \propto
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```

```
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$^b$ Not predefined in a format based on {\tt basefont.tex}.
Use one of the style options
{\tt oldlfont}, {\tt newlfont}, {\tt amsfonts} or {\tt amssymb}.
```

Punctuation Symbols

```
, , ; ; : \colon . \ldotp · \cdotp

Table 4: Punctuation Symbols
```

t4.gif

, \colon \ldotp \cdotp

Arrow Symbols

←	\leftarrow	←—	\longleftarrow	↑	\uparrow
=	\Leftarrow	\Leftarrow	\Longleftarrow	\uparrow	\Uparrow
\rightarrow	\rightarrow	\longrightarrow	\longrightarrow	\downarrow	\downarrow
\Rightarrow	\Rightarrow	\Longrightarrow	\Longrightarrow	\Downarrow	\Downarrow
\leftrightarrow	\leftrightarrow	\longleftrightarrow	\longleftrightarrow	‡	\updownarrow
\Leftrightarrow	\Leftrightarrow	\iff	\Longleftrightarrow	\$	\Updownarrow
\mapsto	\mapsto	\longmapsto	\longmapsto	1	\nearrow
\leftarrow	\hookleftarrow	\hookrightarrow	\hookrightarrow	\	\searrow
_	$\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ $		\rightharpoonup	/	\swarrow
•	\leftharpoondown	—	\rightharpoondown	1	\nwarrow
\rightleftharpoons	\rightleftharpoons	~ <i>></i>	$\backslash \texttt{leadsto}^b$		

t5.gif

\leftarrow	\longleftarrow	\uparrow
\Leftarrow	\Longleftarrow	\Uparrow
\rightarrow	\longrightarrow	\downarrow
\Rightarrow	\Longrightarrow	\Downarrow
\leftrightarrow	\Longleftrightarrow	\updownarrow
\Leftrightarrow	\Longleftrightarrow	\Updownarrow
\mapsto	\longmapsto	\nearrow
\hookleftarrow	\hookrightarrow	\searrow
\leftharpoonup	\rightharpoonup	\swarrow
\leftharpoondown	\rightharpoondown	\nwarrow
\rightleftharpoons	\rightharpoondown \leadsto\$^b\$	\nwarrow

```
$^b$ Not predefined in a format based on {\tt basefont.tex}.
    Use one of the style options
    {\tt oldlfont}, {\tt newlfont}, {\tt amsfonts} or {\tt amssymb}.
```

Miscellaneous Symbols

 K t I L P R S	\ldots \aleph \hbar \imath \jmath \ell \wp \Re \Im \mho ^b	 Ø ▽ √⊤ ⊥ Ⅲ ∠ .	<pre>\cdots \prime \empty \nabla \surd \top \bot \ \angle .</pre>	set	∀∃「♭≒ ‡∖∂	<pre>\vdots \forall \exists \neg \flat \natural \sharp \backslash \partial </pre>	·· 8 □ ♦ △ ♣ ♦ ♥ ♠	\ddots \infty \Box ^b \Diamond ^b \triangle \clubsuit \diamondsuit \heartsuit \spadesuit
\ldots \aleph \hbar \imath \jmath \ell \wp \Re \Im \mho\$^b\$ \$^b\$ Not Use	predefined i	tyle opti	t based on H	•	l ash l	<pre>\ddots \infty \Box\$^b\$ \Diamond\$^b\$ \triangle \clubsuit \diamondsuit \heartsuit \spadesuit .tex}. {\tt amssymb}.</pre>		

Variable-sized Symbols



Table 7: Variable-sized Symbols

t7.gif

\sum	\bigcap	\bigodot
\prod	\bigcup	\bigotimes
\coprod	\bigsqcup	\bigoplus
\int	\bigvee	\biguplus
\oint	\bigwedge	• ,

Log-like Symbols

\arccos	\cos	\csc	\exp	\ker	\limsup	\min	\sinh
\arcsin	\cosh	\deg	\gcd	\lg	\ln	\Pr	\sup
\arctan	\cot	\det	\hom	\lim	\log	\sec	\tan
\arg	\coth	\dim	\inf	\liminf	\max	\sin	\tanh

Table 8: Log-like Symbols

t8.gif

\arccos	\cos	\csc	\exp	\ker	\limsup	\min	\sinh
\arcsin	\cosh	\deg	\gcd	\lg	\ln	\Pr	\sup
\arctan	\cot	\det	\hom	\lim	\log	\sec	\tan
\arg	\coth	\dim	\inf	\liminf	\max	\sin	\tanh

Delimiters

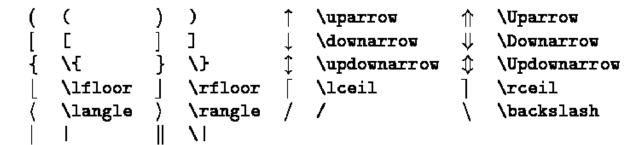


Table 9: Delimiters

t9.gif

```
        (
        )
        \uparrow
        \Uparrow

        [
        ]
        \downarrow
        \Downarrow

        \{
        \}
        \updownarrow
        \Updownarrow

        \lfloor
        \rceil
        \rceil

        \langle
        \rangle
        \backslash
```

Large Delimiters

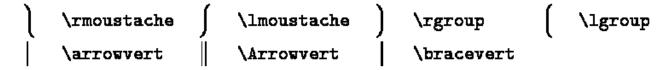


Table 10: Large Delimiters

t10.gif

\rmoustache	\lmoustache	\rgroup	\lanoun
\arrowvert	\Arrowvert	\bracevert	\1group

Math mode accents

â	\hat{a}	á	\acute{a}	ā	\bar{a}	\dot{a}	\dot{a}	ă	\breve{a}
ă	\check{a}	à	\grave{a}	\vec{a}	\vec{a}	ä	\ddot{a}	ã	\hat{a}

Table 11: Math mode accents

<u>t11.gif</u>

\hat{a}	\acute{a}	\bar{a}	\dot{a}	\breve{a}
\check{a}	\grave{a}	\vec{a}	\ddot{a}	\tilde{a}

Some other constructions

\widetilde{abc}	\widetilde{abc}	\widehat{abc}	\widehat{abc}
\overleftarrow{abc}	\overleftarrow{abc}	\overrightarrow{abc}	\overrightarrow{abc}
\overline{abc}	\overline{abc}	\underline{abc}	\underline{abc}
\widehat{abc}	\overbrace{abc}	abc	\underbrace{abc}
\sqrt{abc}	\sqrt{abc}	$\sqrt[n]{abc}$	\sqrt[n]{abc}
f'	f'	<u>abc</u> xy z	\frac{abc}{xyz}

Table 12: Some other constructions

$\underline{t12.gif}$

\widetilde{abc}
\overleftarrow{abc}
\overline{abc}
\overline{abc}
\overbrace{abc}
\sqrt{abc}
\sqrt{abc}
\sqrt{abc}
\frac{abc}{xyz}