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## 1 Greek Letters

$\alpha$	\alpha	$\theta$	\theta	o	0	au	\tau
$\beta$	\beta	$\vartheta$	\vartheta	$\pi$	\pi	v	\upsilon
$\gamma$	\gamma	$\iota$	\iota	$\varpi$	\varpi	$\phi$	\phi
$\delta$	\delta	$\kappa$	\kappa	$\rho$	\rho	$\varphi$	\varphi
$\epsilon$	\epsilon	$\lambda$	\lambda	$\varrho$	\varrho	χ	\chi
$\varepsilon$	$\vert varepsilon$	$\mu$	\mu	$\sigma$	\sigma	$\psi$	\psi
$\zeta$	\zeta	$\nu$	\nu	ς	\varsigma	$\omega$	\omega
$\eta$	\eta	ξ	\xi				
$\Gamma$	\Gamma	Λ	\Lambda	$\sum$	\Sigma	$\Psi$	\Psi
$\Delta$	\Delta	Ξ	\Xi	Υ	\Upsilon	Ω	\Omega
Θ	\Theta	Π	\Pi	Φ	\Phi		

Table 1: Greek Letters

## 2 Binary Operation Symbols

$\pm$	\pm	$\cap$	\cap	$\Diamond$	\diamond	$\oplus$	\oplus
$\mp$	\mp	$\cup$	\cup	Δ	\bigtriangleup	$\ominus$	\ominus
×	\times	$\forall$	\uplus	$\nabla$	\bigtriangledown	$\otimes$	\otimes
÷	\div	П	\sqcap	◁	\triangleleft	$\oslash$	$\oslash$
*	\ast	$\sqcup$	\sqcup	$\triangleright$	$\$ triangleright	$\odot$	\odot
*	\star	$\vee$	\vee	$\triangleleft$	$\label{lhd}^*$	$\bigcirc$	\bigcirc
0	\circ	$\wedge$	\wedge	$\triangleright$	\rhd*	†	\dagger
•	\bullet	\	\setminus	⊴	$\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ $	‡	\ddagger
٠	\cdot	?	\wr	$\trianglerighteq$	$\unrhd^*$	П	$\aggreen$
+	+	_	_				

<sup>\*</sup> Not predefined in LaTeX  $2\varepsilon$ . Use one of the packages latexsym, amsfonts or amssymb.

Table 2: Binary Operation Symbols

### 3 Relation Symbols 数学大小

```
\leq
     \leq
                             \geq
                                                    \equiv
                                                                      \models
     \prec
                             \succ
                                                    \sim
                                                                      \perp
\preceq
     \preceq
                       \succeq
                             \succeq
                                               \simeq
                                                    \simeq
                                                                      \mbox{mid}
     \11
«
                             \gg
                                                    \asymp
                                                                      \parallel
\subset
     \subset
                       \supset
                             \supset
                                                                     \bowtie
                                               \approx
                                                    \approx
                                                                \bowtie
\subseteq
     \subseteq
                             \supseteq
                                                    \cong
                                                                      \Join^*
                                               \cong
                                                                 \bowtie
\sqsubset*
                             \sqsupset*
                                                    \neq
                                                                      \smile
                                               \neq
\sqsubseteq
     \sqsubseteq
                             \sqsupseteq
                                               \dot{=}
                                                    \doteq
                                                                      \frown
\in
     \in
                       \ni
                             \ni
                                                    \propto
\vdash
                       \dashv
     \vdash
                             \dashv
                                               <
                                                    <
                                                                 >
                                                                      >
```

Table 3: Relation Symbols

### 4 Punctuation Symbols

, , ; ; :  $\colon$  .  $\dotp$ 

Table 4: Punctuation Symbols

### 5 Arrow Symbols

$\leftarrow$	\leftarrow	$\leftarrow$	\longleftarrow	$\uparrow$	\uparrow
$\Leftarrow$	\Leftarrow	$ \leftarrow $	\Longleftarrow	$\uparrow$	\Uparrow
$\rightarrow$	\rightarrow	$\longrightarrow$	\longrightarrow	$\downarrow$	\downarrow
$\Rightarrow$	\Rightarrow	$\Longrightarrow$	\Longrightarrow	$\downarrow \downarrow$	\Downarrow
$\leftrightarrow$	\leftrightarrow	$\longleftrightarrow$	\longleftrightarrow	$\updownarrow$	\updownarrow
$\Leftrightarrow$	\Leftrightarrow	$\iff$	\Longleftrightarrow	$\updownarrow$	\Updownarrow
$\mapsto$	\mapsto	$\longmapsto$	\longmapsto	7	\nearrow
$\leftarrow$	\hookleftarrow	$\hookrightarrow$	$\hookrightarrow$	×	\searrow
<b>←</b>	\hookleftarrow \leftharpoonup	$\hookrightarrow$	\hookrightarrow \rightharpoonup	\ \/	\searrow \swarrow
,				\ \ \ \ \ \	
,	\leftharpoonup		\rightharpoonup	\ \ \ \ \ \	\swarrow

Table 5: Arrow Symbols

<sup>\*</sup> Not predefined in  $\LaTeX 2_{\varepsilon}$ . Use one of the packages latexsym, amsfonts or amssymb.

### 6 Miscellaneous Symbols

	\ldots	• • •	\cdots	:	\vdots	٠.,	\ddots
×	\aleph	1	\prime	$\forall$	\forall	$\infty$	$\infty$
$\hbar$	\hbar	Ø	\emptyset	$\exists$	\exists		$\Box^*$
$\imath$	$\$ imath	$\nabla$	\nabla	$\neg$	\neg	$\Diamond$	$\Diamond^*$
J	$\$ jmath	$\sqrt{}$	\surd	þ	\flat	$\triangle$	\triangle
$\ell$	\ell	T	\top	þ	\natural	*	\clubsuit
60	\wp	$\perp$	\bot	#	\sharp	$\Diamond$	\diamondsuit
				T1		•	
$\Re$	\Re		\1	\	\backslash	$\Diamond$	\heartsuit
R T	\Re \Im	 	\  \angle	`\ ∂		•	\heartsuit

<sup>\*</sup> Not predefined in LATEX  $2\varepsilon$ . Use one of the packages latexsym, amsfonts or amssymb.

Table 6: Miscellaneous Symbols

### 7 Variable-sized Symbols

$\sum$	\sum	$\cap$	\bigcap	$\odot$	\bigodot
$\prod$	\prod	U	\bigcup	$\otimes$	\bigotimes
$\coprod$	\coprod	Ш	\bigsqcup	$\oplus$	\bigoplus
$\int$	$\$ int	$\bigvee$	\bigvee	+	\biguplus
∮	\oint	$\wedge$	\bigwedge		

Table 7: Variable-sized Symbols

## 8 数学函数 Log-like Symbols

\arccos	\cos	\csc	\exp	\ker	$\label{limsup}$	$\mbox{min}$	$\sinh$
\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

#### 9 Delimiters

Table 9: Delimiters

#### 10 Large Delimiters

Table 10: Large Delimiters

#### 11 Math mode accents

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

Table 11: Math mode accents

#### 12 Some other constructions

```
\widetilde{abc}
                                       abc
                                                \widehat{abc}
abc
\stackrel{\longleftarrow}{abc}
                                       \overrightarrow{abc}
         \overleftarrow{abc}
                                                \overrightarrow{abc}
\overline{abc}
         \overline{abc}
                                                \underline{abc}
                                       abc
abc
         \overbrace{abc}
                                                \underbrace{abc}
                                       (abc)
\sqrt{abc}
         \sqrt{abc}
                                       \sqrt[n]{abc}
                                                \sqrt[n]{abc}
f'
         f'
                                                \frac{abc}{xyz}
```

Table 12: Some other constructions

#### 13 AMS Delimiters

 $\lceil$  \ulcorner  $\rceil$  \urcorner  $\lfloor$  \llcorner  $\rfloor$  \lrcorner

Table 13: AMS Delimiters

#### 14 AMS Arrows

<b>→</b>	\dashrightarrow	<b>←</b>	$\delta$	otin	\leftleftarrows	$\leftrightarrows$	$\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ $
$\Leftarrow$	\Lleftarrow	<b></b>	\twoheadleftarrow	$\leftarrow$	\leftarrowtail	$\leftarrow$ P	\looparrowleft
$\leftrightharpoons$	\leftrightharpoons	$ \leftarrow $	\curvearrowleft	Q	\circlearrowleft	↰	\Lsh
$\uparrow\uparrow$	\upuparrows	1	$\upharpoonleft$	1	$\downharpoonleft$	_0	$\mbox{\mbox{\mbox{multimap}}}$
<b>~~</b>	\leftrightsquigarrow	$\Rightarrow$	$\$ rightrightarrows	$\stackrel{\longrightarrow}{\longleftrightarrow}$	\rightleftarrows	$\Rightarrow$	\rightrightarrows
$\stackrel{\longrightarrow}{\longleftrightarrow}$	\rightleftarrows	$\longrightarrow$	\twoheadrightarrow	$\longrightarrow$	\rightarrowtail	$\hookrightarrow$	$\label{looparrowright}$
$\rightleftharpoons$	$\$ rightleftharpoons	$\Diamond$	\curvearrowright	$\bigcirc$	\circlearrowright	ightharpoons	\Rsh
$\downarrow \downarrow$	\downdownarrows	1	\upharpoonright	L	\downharpoonright	<b>~</b> →	\rightsquigarrow

Table 14: AMS Arrows

### 15 AMS Negated Arrows

Table 15: AMS Negated Arrows

#### 16 AMS Greek

 $\digamma$  \digamma  $\varkappa$  \varkappa

Table 16: AMS Greek

### 17 AMS Hebrew

☐ \beth ☐ \daleth ☐ \gimel

Table 17: AMS Hebrew

### 18 AMS Miscellaneous

$\hbar$	\hbar	$\hbar$	\hslash	Δ	$\vartriangle$	$\nabla$	$\triangledown$
	\square	$\Diamond$	\lozenge	$\odot$	\circledS	_	\angle
4	\measuredangle	∄	\nexists	Ω	\mho	Ь	\Finv
G	\Game	k	\Bbbk	1	\backprime	Ø	$\vert varnothing$
<b>A</b>	$\$ \blacktriangle	▼	\blacktriangledown		\blacksquare	<b>♦</b>	\blacklozenge
*	\bigstar	⋖	\sphericalangle	C	\complement	$\mathfrak{g}$	\eth
/	\diagup		\diagdown				

Table 18: AMS Miscellaneous

# 19 AMS Binary Operators

$\dot{+}$	\dotplus	\	\smallsetminus	$\qquad \qquad \bigcirc$	\Cap	U	\Cup
$\overline{\wedge}$	\barwedge	$\underline{\vee}$	\veebar	$\bar{\wedge}$	\doublebarwedge	$\Box$	\boxminus
$\boxtimes$	\boxtimes	•	\boxdot	$\blacksquare$	\boxplus	*	\divideontimes
×	\ltimes	$\bowtie$	\rtimes	$\lambda$	\leftthreetimes	$\angle$	\rightthreetimes
人	\curlywedge	Υ	\curlyvee	$\ominus$	\circleddash	*	\circledast
0	\circledcirc		\centerdot	Т	\intercal		

Table 19: AMS Binary Operators

## 20 AMS Binary Relations

$\leq$	\leqq	$\leq$	\leqslant	$\leq$	\eqslantless	$\lesssim$	\lesssim
$\lessapprox$	\lessapprox	$\approx$	\approxeq	⋖	\lessdot	<b>~</b>	\111
$\leq$	\lessgtr	$\leq$	\lesseqgtr	$\leq$	\lesseqqgtr	÷	\doteqdot
≓	\risingdotseq	≒	$\fill$ fallingdotseq	$\sim$	\backsim	$\simeq$	\backsimeq
$\subseteq$	\subseteqq	$\subseteq$	\Subset		\sqsubset	$\preccurlyeq$	\preccurlyeq
$\curlyeqprec$	\curlyeqprec	$\stackrel{\sim}{\sim}$	\precsim	$\approx$	\precapprox	$\triangleleft$	\vartriangleleft
$\leq$	$\trianglelefteq$	F	\vDash	III	\Vvdash	$\smile$	\smallsmile
$\overline{}$	\smallfrown	<u></u>	\bumpeq	≎	\Bumpeq	$\geq$	\geqq
$\geqslant$	\geqslant	≽	\eqslantgtr	$\gtrsim$	\gtrsim	$\gtrapprox$	\gtrapprox
≽	\gtrdot	<b>&gt;&gt;&gt;</b>	\ggg	$\geq$	\gtrless	$\geq$	\gtreqless
<u> </u>	\gtreqqless	<u></u> ■	\eqcirc	<u>•</u>	\circeq	$\triangleq$	$\triangleq$
~	\thicksim	$\approx$	$\$ thickapprox	$\supseteq$	\supseteqq	$\supset$	\Supset
	\sqsupset	≽	\succcurlyeq	$\succcurlyeq$	\curlyeqsucc	$\succeq$	\succsim
$\stackrel{\textstyle \angle}{pprox}$	\succapprox	$\triangleright$	$\vartriangleright$	$\trianglerighteq$	$\trianglerighteq$	⊩	\Vdash
I	\shortmid	П	\shortparallel	Ŏ	\between	$ \uparrow $	$\protect\$
$\propto$	\varpropto	<b>⋖</b>	\blacktriangleleft	<i>:</i> .	\therefore	Э	\backepsilon
•	\blacktriangleright	::	\because				

Table 20: AMS Binary Relations

### 21 AMS Negated Binary Relations

$\swarrow$	\nless	$\nleq$	\nleq	≰	$\nleqslant$	≰	\nleqq
$\leq$	\lneq	$\leqq$	\lneqq	$\stackrel{\leq}{=}$	$lem:lemma_lemma$	$\lesssim$	\lnsim
≨	\lnapprox	$ \neq$	\nprec	$\npreceq$	\npreceq	$\stackrel{\scriptstyle \sim}{\sim}$	\precnsim
<del>≨</del>	\precnapprox	<b>∞</b>	\nsim	ł	$\n$	ł	\nmid
$\not\vdash$	\nvdash	¥	\nvDash		$\n$	⊉	$\n$
$\not\subseteq$	\nsubseteq	Ç	\subsetneq	$\subsetneq$	$\varsubsetneq$	$\subseteq$	\subsetneqq
$\not\subseteq$	$\vert var subsetneqq$	$\not >$	\ngtr	≱	\ngeq	$\not\geq$	$\negation$
≱	\ngeqq	$\geq$	\gneq	$\geqq$	\gneqq	$\geqq$	\gvertneqq
$\gtrsim$	\gnsim	≽	\gnapprox	$\not\succ$	\nsucc	$\not\succeq$	\nsucceq
$\not\succeq$	\nsucceq	$\not \searrow$	\succnsim	,	\succnapprox	$\ncong$	\ncong
Ħ	$\nshort$ parallel	#	\nparallel	¥	\nvDash	¥	\nVDash
$\not\!$	$\ntriangleright$	$\not\trianglerighteq$	$\n$	$\not\supseteq$	\nsupseteq	$\not\supseteq$	$\nsupseteqq$
$\supseteq$	\supsetneq	$\supseteq$	\varsupsetneq	$\supsetneqq$	\supsetneqq	$\not\supseteq$	$\vert var supset neqq$

Table 21: AMS Negated Binary Relations

#### 22 stmaryrd Delimiters

Table 22: stmaryrd Delimiters

#### stmaryrd Arrows

```
\Longmapsfrom
                        \Longmapsto
                                               \Mapsfrom
                                                                          \Mapsto
\nnearrow
                   1
                        \nnwarrow
                                               \ssearrow
                                                                          \sswarrow
\shortdownarrow
                        \shortuparrow
                                               \shortleftarrow
                                                                          \shortrightarrow
\longmapsfrom
                   \leftarrow
                        \mapsfrom
                                               \leftarrowtriangle
                                                                          \rightarrowtriangle
                                                                          \leftrightarrowtriangle
\lightning
                   \rrparenthesis
                                               \leftrightarroweq
                                          \Leftrightarrow
```

Table 23: stmaryrd Arrows

#### 23 stmaryrd Extension Characters

```
/ \Arrownot | \Mapsfromchar | \Mapstochar / \arrownot | \mapsfromchar
```

Table 24: stmaryrd Extension Characters

### 24 stmaryrd Binary Operators

Υ	\Ydown	$\prec$	\Yleft	$\succ$	\Yright	$\forall$	\Yup
φ	\baro	\\	\bbslash	&	\binampersand	8	\bindnasrepma
*	\boxast		\boxbar		\boxbox		\boxbslash
0	\boxcircle	•	\boxdot		\boxempty		\boxslash
Y	\curlyveedownarrow	$\sqrt{}$	\curlyveeuparrow	$\bigvee$	\curlywedgedownarrow	$\uparrow$	\curlywedgeuparrow
	\fatbslash	9	\fatsemi		\fatslash		\interleave
$\Diamond$	\leftslice	M	\merge	$\Theta$	\minuso	$\pm$	\moo
$\oplus$	\nplus	$\bigcirc$	\obar		\oblong	$\bigcirc$	\obslash
$\Diamond$	\ogreaterthan	$\otimes$	\olessthan	$\bigcirc$	\ovee	$\bigcirc$	\owedge
$\Diamond$	\rightslice	//	\sslash		\talloblong	$\bigcirc$	\varbigcirc
Y	\varcurlyvee	$\downarrow$	\varcurlywedge	*	\varoast	$\oplus$	\varobar
$\Diamond$	\varobslash	0	\varocircle	$\odot$	\varodot	$\Diamond$	$\vert varogreater than$
$\otimes$	\varolessthan	$\ominus$	\varominus	$\oplus$	\varoplus	$\oslash$	\varoslash
$\otimes$	\varotimes	$\Diamond$	\varovee	$\Diamond$	\varowedge	Χ	\vartimes

Table 25: stmaryrd Binary Operators

#### 25 stmaryrd Large Binary Operators

	\bigbox	Υ	\bigcurlyvee	人	\bigcurlywedge
	\biginterleave	+	\bignplus		\bigparallel
П	\bigsqcap	$\nabla$	\bigtriangledown	$\wedge$	\bigtriangleup

Table 26: stmaryrd Large Binary Operators

#### 26 stmaryrd Binary Relations

Table 27: stmaryrd Binary Relations

### 27 stmaryrd Negated Binary Relations

 $\not \stackrel{}{\nearrow}$  \ntrianglelefteqslant  $\not \stackrel{}{\triangleright}$  \ntrianglerighteqslant

Table 28: stmaryrd Negated Binary Relations

# 28 Math Alphabets

		Required package
ABCdef	\mathrm{ABCdef}	
ABCdef	\mathit{ABCdef}	
ABCdef	\mathnormal{ABCdef}	
$\mathcal{ABC}$	\mathcal{ABC}	
ABC	\mathcal{ABC}	euscript with option: mathcal
	\mathscr{ABC}	euscript with option: mathcr
ABCdef	<pre>\mathfrak{ABCdef}</pre>	eufrak
$\mathbb{ABC}$	\mathbb{ABC}	${\sf amsfonts}  {\rm or}  {\sf amssymb}$

Table 29: Math Alphabets