

# MnSymbol – A Math Symbol Font

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MnSymbol is a font of mathematical symbols designed as companion to Adobe MinionPro, but it might also fit well to other renaissance or baroque faces. To use this font in a L<sup>A</sup>T<sub>E</sub>X document you can issue the command

```
\usepackage{MnSymbol}
```

**Interference with other packages.** The MnSymbol package is incompatible with the amssymb and amsfonts packages. It automatically loads the amsmath and textcomp packages. If you want to pass options to these packages you can either put the corresponding \usepackage command before the \usepackage{MnSymbol} or you can include the options in the \documentclass command.

**Options.** The MnSymbol package supports the following options:

**mnsy** (default) selects MnSymbolS as calligraphic font.

**cmsy** selects the Computer Modern calligraphic font.

**abx** selects the experimental calligraphic font from the mathabx fonts. You need to have this font installed in order to use this option. mathabx contains also calligraphic lowercase letters, but the font is not quite finished yet.

**retainmissing** Normally MnSymbol takes some of the missing symbols from the text font and it sets the remaining ones to \undefined. If you want to retain the old definitions of these symbols then you can use the option retainmissing.

**Symbols.** The MnSymbol package provides the following symbols.

## Arrows

→	\rightarrow, \to	↓	\searrow
↑	\uparrow	⇒	\Rrightarrow
←	\leftarrow, \gets	⇑	\Uparrow
↓	\downarrow	⇐	\Leftarrow
↗	\nearrow	⇓	\Downarrow
↖	\nwarrow	↗↗	\Nnearrow
↙	\swarrow	↖↖	\Nswarrow

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\*I'd like to thank Michael Zedler for his numerous suggestions.

⟨⟨	\Swarrow	↖	\rhookswarrow
⟨＼	\Searrow	↗	\rhooksearrow
↔＼	\leftrightarrow	→	\rightharpoonccw, \rightharpoonup
↓＼	\updownarrow	↑	\upharpoonccw, \upharpoonleft
↗＼	\nesarrow	↑-	\leftharpoonccw, \leftharpoondown
↖＼	\nwsearrow	↓	\downharpoonccw, \downharpoonright
↔＼	\Leftrightarrow	↗	\neharpoonccw
↔＼	\Updownarrow	↖	\nwharpoonccw
↗＼	\Nesarrow	↙	\swharpoonccw
↖＼	\Nwsearrow	↘	\seharpoonccw
↔＼	\twoheadrightarrow	→	\rightharpooncw, \rightharpoondown
↑＼	\twoheaduparrow	↑	\upharpooncw, \upharpoonright, \restriction
←＼	\twoheadleftarrow	←	\leftharpooncw, \leftharpoonup
↓＼	\twoheaddownarrow	↓	\downharpooncw, \downharpoonleft
↗＼	\twoheadnearrow	↗	\neharpooncw
↖＼	\twoheadnarrow	↖	\nwharpooncw
↖＼	\twoheadsarrow	↙	\seharpooncw
↘＼	\twoheadsearrow	↔	\leftrightharpoonupdown
↔＼	\rightarrowtail	↑	\updownharpoonleftright
↑＼	\uparrowtail	↖	\nesharpoonnwse
←＼	\leftarrowtail	↖	\nwseharpoonnesw
↓＼	\downarrowtail	→	\leftrightharpoondownup
↗＼	\nearrowtail	↑	\updownharpoonrightleft
↖＼	\nwarrowtail	↖	\nesharpoonsenw
↖＼	\swarrowtail	↙	\nwseharpoonswne
↘＼	\searrowtail	↔	\rightleftharpoons
↔＼	\rightmapsto, \mapsto	↓↓	\updownharpoons
↑＼	\upmapsto	↖↖	\nesharpoons
←＼	\leftmapsto	↖↖	\senharpoons
↓＼	\downmapsto	↔↔	\leftrightharpoons
↗＼	\nemapsto	↖↖	\downupharpoons
↖＼	\nwmapsto	↔↔	\swneharpoons
↖＼	\swmapsto	↔↔	\nwseharpoons
↖＼	\semapsto	→→	\dashedrightarrow, \dashrightarrow, \dasharrow
↔＼	\lhookrightarrow,	↑↑	\dasheduparrow
＼	\hookrightarrow	←←	\dashedleftarrow, \dashleftarrow
↑＼	\lhookuparrow	↓↓	\dasheddownarrow
←＼	\lhookleftarrow	↗↗	\dashednearrow
↓＼	\lhookdownarrow	↖↖	\dashednarrow
↗＼	\lhooknearrow	↖↖	\dashedswarrow
↖＼	\lhooknarrow	↘↘	\dashedsearrow
↖＼	\lhookswarrow		
↖＼	\lhooksearrow		
→＼	\rhookrightarrow		
↑＼	\rhookuparrow		
←＼	\rhookleftarrow,		
＼	\hookleftarrow		
↓＼	\rhookdownarrow		
↗＼	\rhooknearrow		
↖＼	\rhooknarrow		

→	\rightspoon, \multimap	↖	\neswarrows
↑	\upspoon	↗	\nwsearrows
←	\leftspoon	↙	\leftrightarrows
↓	\downspoon	↘	\downuparrows
↗	\nespoon	↖	\swnearrows
↖	\nwspoon	↗	\senwarrows
↙	\swspoon	↘	\rightlsquigarrow, \leadsto, \rightsquigarrow
↘	\sespoon	↗	\uplsquigarrow
→	\rightfilledspoon	↖	\leftlsquigarrow
↑	\upfilledspoon	↙	\downlsquigarrow
←	\leftfilledspoon	↗	\nelsquigarrow
↓	\downfilledspoon	↖	\nwlsquigarrow
↗	\nefilledspoon	↙	\swlsquigarrow
↖	\nwfilledspoon	↗	\selsquigarrow
↙	\swfilledspoon	↖	\rightrsquigarrow
↘	\sefilledspoon	↗	\uprsquigarrow
→	\rightfootline	↖	\leftrsquigarrow
↑	\upfootline	↙	\downrsquigarrow
←	\leftfootline	↗	\nersquigarrow
↓	\downfootline	↖	\nwrsquigarrow
↗	\nefootline	↙	\swrsquigarrow
↖	\nwfootline	↗	\sersquigarrow
↙	\swfootline	↖	\squigarrowleftright, \leftrightsquigarrow
↘	\sefootline	↗	\squigarrowupdown
→	\rightfree	↖	\squigarrowrightleft
↑	\upfree	↖	\squigarrowdownup
←	\leftfree	↗	\squigarrownesw
↓	\downfree	↖	\squigarrownwse
↗	\nefree	↖	\squigarrowswne
↖	\nwfree	↖	\squigarrowsenw
↙	\swfree	↗	\lcurvearrowright, \curvearrowright
↘	\sefree	↖	\lcurvearrowup
→	\rightpitchfork	↗	\lcurvearrowleft
↑	\uppitchfork, \pitchfork	↖	\lcurvearrowdown
←	\leftpitchfork	↗	\lcurvearrowne
↓	\downpitchfork	↖	\lcurvearrownw
↗	\nepitchfork	↗	\lcurvearrowsw
↖	\nwpitchfork	↗	\lcurvearrowse
↙	\swpitchfork	↗	\rcurvearrowright
↘	\sepitchfork	↖	\rcurvearrowup
→	\rightrightarrows	↗	\rcurvearrowleft,
↑↑	\upuparrows	↖	\curvearrowleft
↖↖	\leftleftarrows	↗	\rcurvearrowdown
↘↘	\downdownarrows	↖	\rcurvearrowne
↗↗	\nenearrows	↗	\rcurvearrownw
↖↖	\wnwarrows	↖	\rcurvearrowsw
↙↙	\swswarrows	↗	\rcurvearrowse
↘↘	\sesearrows	↖	\rcurvearrowup
↖↖	\rightleftarrows	↗	\rcurvearrowright
↓↓	\updownarrows	↖	\rcurvearrowleft

↖	\curvearrowleftright	↗	\swVdash
↙	\curvearrowupdown	↘	\seVdash
↶	\curvearrowrightleft	↷	\rightModels, \VDash
↷	\curvearrowdownup	↶	\upModels
↶	\curvearrownesw	↷	\leftModels
↶	\curvearrownwse	↷	\downModels
↶	\curvearrowswne	↷	\neModels
↶	\curvearrowsenw	↷	\nwModels
—	\leftrightline, \relbar	⤿	\swModels
	\updownline, \divides	⤿	\seModels
/	\neswline, \diagup	⤿	\rcleararrowright
\	\nwsepline, \diagdown	⤿	\rcleararrowup,
=	\Leftrightline, \Relbar	⤿	\rcleararrowleft
	\Updownline, \parallel	⤿	\rcleararrowdown
==	\Neswline	⤿	\lcirclearrowright
==	\Nwsepline	⤿	\lcirclearrowup,
⊣	\rightvdash, \vdash	⤿	\circlearrowright
⊥	\upvdash, \perp	⤿	\lcirclearrowleft
⊤	\leftvdash, \dashv	⤿	\lcirclearrowdown
⊤	\downvdash	⤿	\longrightarrow
⤿	\nevDash	⤿	\longleftarrow
⤿	\nwvDash	⤿	\longleftrightarrow
⤿	\swvDash	⤿	\Longrightarrow
⤿	\sevDash	⤿	\Longleftarrow
⤿	\rightmodels, \models, \vDash	⤿	\Longleftrightarrow
⤿	\upmodels	⤿	\longmapsto
⤿	\leftmodels	⤿	\emptyfilledspoon
⤿	\downmodels	⤿	\filledemptyspoon
⤿	\nemodels	⤿	\largeemptyfilledspoon
⤿	\nwmodels	⤿	\largefilledemptyspoon
⤿	\swmodels	⤿	\Rightarrow
⤿	\semodels	⤿	\Rrightarrow
⤿	\rightVdash, \Vdash	⤿	\Lleftarrow
⤿	\upVdash	⤿	\Rsh
⤿	\leftVdash	⤿	\Lsh
⤿	\downVdash	⤿	\looparrowright
⤿	\neVdash	⤿	\looparrowleft
⤿	\nwVdash	⤿	\Vdash

## Negated arrows

⤿	\nrightarrow, \nto	⤿	\nRightarrow
⤿	\nuparrow	⤿	\nUparrow
⤿	\nleftarrow, \ngets	⤿	\nLeftarrow
⤿	\ndownarrow	⤿	\nDownarrow
⤿	\nnearrow	⤿	\nNearrow
⤿	\nnwarrow	⤿	\nNwarrow
⤿	\nswarrow	⤿	\nSwarrow
⤿	\nsearrow	⤿	\nSearrow

$\leftrightarrow$	<code>\nleftrightarrow</code>	$\rightarrow$	<code>\nrightharpoonccw,</code>
$\Downarrow$	<code>\updownarrow</code>	$\nearrow$	<code>\nrightarrow</code>
$\nwarrow$	<code>\neswarrow</code>	$\dagger$	<code>\upharpoonccw,</code>
$\nwsearrow$	<code>\nnwsearrow</code>	$\dagger$	<code>\upharpoonleft</code>
$\Leftrightarrow$	<code>\Leftrightarrow</code>	$\dashv$	<code>\nleftharpoonccw,</code>
$\Updownarrow$	<code>\Updownarrow</code>	$\dashv$	<code>\nleftharpoondown</code>
$\Lsh$	<code>\Neswarrow</code>	$\ddagger$	<code>\ndownharpoonccw,</code>
$\Lsh$	<code>\Nnwsearrow</code>	$\times$	<code>\ndownharpoonright</code>
$\Rsh$	<code>\Ntwoheadrightarrow</code>	$\times$	<code>\nneharpoonccw</code>
$\Rsh$	<code>\Ntwoheaduparrow</code>	$\times$	<code>\nnwharpoonccw</code>
$\Lsh$	<code>\Ntwoheadleftarrow</code>	$\times$	<code>\nswharpoonccw</code>
$\Lsh$	<code>\Ntwoheaddownarrow</code>	$\times$	<code>\nseharpoonccw</code>
$\Rsh$	<code>\Ntwoheadnearrow</code>	$\dashv$	<code>\nrightarrowtail</code>
$\Rsh$	<code>\Ntwoheadnarrow</code>	$\dashv$	<code>\nrestriction</code>
$\Lsh$	<code>\Ntwoheadswarrow</code>	$\dashv$	<code>\nleftharpooncw,</code>
$\Lsh$	<code>\Ntwoheadsearrow</code>	$\dashv$	<code>\nupharpoonright,</code>
$\Rsh$	<code>\Nrightarrowtail</code>	$\dashv$	<code>\nrightarrowtail</code>
$\Rsh$	<code>\Nuparrowtail</code>	$\dashv$	<code>\nupharpooncw,</code>
$\Lsh$	<code>\Nleftarrowtail</code>	$\dashv$	<code>\nleftharpoonup</code>
$\Lsh$	<code>\Ndarrowtail</code>	$\dashv$	<code>\ndownharpooncw,</code>
$\Rsh$	<code>\Nnearrowtail</code>	$\dashv$	<code>\ndownharpoonleft</code>
$\Rsh$	<code>\Nnwarrowtail</code>	$\times$	<code>\nneharpooncw</code>
$\Rsh$	<code>\Nswarrowtail</code>	$\times$	<code>\nnwharpooncw</code>
$\Rsh$	<code>\Nsearrowtail</code>	$\times$	<code>\nswharpooncw</code>
$\Rsh$	<code>\Nrightmapsto, \nmapsto</code>	$\times$	<code>\nseharpooncw</code>
$\ddagger$	<code>\Nupmapsto</code>	$\dashv$	<code>\nleftrightharpoonupdown</code>
$\Lsh$	<code>\Nleftmapsto</code>	$\dashv$	<code>\nupdownharpoonleftright</code>
$\Lsh$	<code>\Nddownmapsto</code>	$\times$	<code>\nneswharpoonnwse</code>
$\Rsh$	<code>\Nnemapsto</code>	$\times$	<code>\nnwseharpoonnesw</code>
$\Rsh$	<code>\Nnwmapsto</code>	$\dashv$	<code>\nleftrightharpoondownup</code>
$\Rsh$	<code>\Nswmapsto</code>	$\dashv$	<code>\nupdownharpoonrightleft</code>
$\Rsh$	<code>\Nsemapsto</code>	$\times$	<code>\nneswharpoonsenw</code>
$\Rsh$	<code>\Nlhookrightarrow</code> , <code>\nhookrightarrow</code>	$\times$	<code>\nnwseharpoonswne</code>
$\ddagger$	<code>\Nlhookuparrow</code>	$\dashv$	<code>\nrightleftharpoons</code>
$\Lsh$	<code>\Nlhookleftarrow</code>	$\dashv$	<code>\nupdownharpoons</code>
$\Lsh$	<code>\Nlhookdownarrow</code>	$\times$	<code>\nneswharpoons</code>
$\Rsh$	<code>\Nlhooknearrow</code>	$\dashv$	<code>\nsenwharpoons</code>
$\Rsh$	<code>\Nlhooknarrow</code>	$\dashv$	<code>\nleftrightharpoons</code>
$\Rsh$	<code>\Nlhookswarrow</code>	$\dashv$	<code>\ndownupharpoons</code>
$\Rsh$	<code>\Nlhooksearrow</code>	$\times$	<code>\nswneharpoons</code>
$\Rsh$	<code>\Nrhookrightarrow</code>	$\dashv$	<code>\nnwseharpoons</code>
$\ddagger$	<code>\Nrhookuparrow</code>	$\dashv$	<code>\ndashedrightarrow,</code>
$\Lsh$	<code>\Nrhookleftarrow,</code> <code>\nhookleftarrow</code>	$\dashv$	<code>\ndashrightarrow,</code>
$\Lsh$	<code>\Nrhookdownarrow</code>	$\dashv$	<code>\ndasharrow</code>
$\Rsh$	<code>\Nrhooknearrow</code>	$\dashv$	<code>\ndasheduparrow</code>
$\Rsh$	<code>\Nrhooknarrow</code>	$\dashv$	<code>\ndashedleftarrow,</code>
$\Rsh$	<code>\Nrhookswarrow</code>	$\dashv$	<code>\ndashleftarrow</code>
$\Rsh$	<code>\Nrhooksearrow</code>	$\dashv$	<code>\ndasheddownarrow</code>

↖	\ndashedswarrow	↗	\nrightleftarrows
↘	\ndashedsearrow	↶	\nupdownarrows
⤠	\nrightspoon, \nmultimap	⤡	\nneswarrows
⤢	\nupspoon	⤣	\nnwsearrows
⤤	\nleftspoon	⤥	\nleftrightarrows
⤦	\ndownspoon	⤧	\ndownuparrows
⤨	\nnespoon	⤩	\nswnearrows
⤪	\nnwspoon	⤪	\nsenwarrows
⤫	\nswspoon	⤬	\nrightlsquigarrow, \nleadsto,
⤬	\nsespoon	⤭	\nrightsquigarrow
⤮	\nrightfilledspoon	⤮	\nuplsquigarrow
⤯	\nupfilledspoon	⤯	\nleftlsquigarrow
⤰	\nleftfilledspoon	⤰	\ndownlsquigarrow
⤱	\ndownfilledspoon	⤱	\nnelsquigarrow
⤲	\nnefilledspoon	⤲	\nnwlsquigarrow
⤳	\nnwfilledspoon	⤳	\nswlsquigarrow
⤴	\nswfilledspoon	⤴	\nselsquigarrow
⤵	\nsefilledspoon	⤵	\nrightrsquigarrow
⤶	\nrightfootline	⤶	\nuprsquigarrow
⤷	\nupfootline	⤷	\nleftrsquigarrow
⤸	\nleftfootline	⤸	\ndownrsquigarrow
⤹	\ndownfootline	⤹	\nnersquigarrow
⤺	\nnefootline	⤺	\nnwrsquigarrow
⤻	\nnwfootline	⤻	\nswrsquigarrow
⤼	\nswfootline	⤼	\nsersquigarrow
⤽	\nsefootline	⤽	\nsquigarrowleftright,
⤾	\nrightfree	⤾	\nleftrightsquigarrow
⤿	\nupfree	⤿	\nsquigarrowupdown
⤰	\nleftfree	⤰	\nsquigarrowrightleft
⤱	\ndownfree	⤱	\nsquigarrowdownup
⤲	\nnefree	⤲	\nsquigarrownesw
⤳	\nnwfree	⤳	\nsquigarrownwse
⤴	\nswfree	⤴	\nsquigarrowswne
⤵	\nsefree	⤵	\nsquigarrowsenw
⤶	\nrightpitchfork	⤶	\nlcurvearrowright,
⤷	\nuppitchfork, \npitchfork	⤷	\ncurvearrowright
⤸	\nleftpitchfork	⤸	\nlcurvearrowup
⤹	\ndownpitchfork	⤹	\nlcurvearrowleft
⤺	\nnepitchfork	⤺	\nlcurvearrowdown
⤻	\nnwpitchfork	⤻	\nlcurvearrowne
⤼	\nswpitchfork	⤼	\nlcurvearrownw
⤽	\nsepitchfork	⤽	\nlcurvearrowsw
⤾	\nrightrightarrows	⤾	\nlcurvearrowse
⤿	\nupuparrows	⤿	\nrcurvearrowright
⤰	\nleftleftarrows	⤰	\nrcurvearrowup
⤱	\ndowndownarrows	⤱	\nrcurvearrowleft,
⤲	\nnenearrows	⤲	\ncurvearrowleft
⤳	\nnwnarrows	⤳	\nrcurvearrowdown
⤴	\nswswarrows	⤴	\nrcurvearrowne
⤵	\nsesearrows	⤵	\nrcurvearrownw

↖	\nrcurvearrowsw	↘	\nnwmodels
↙	\nrcurvearrowse	↗	\nswmodels
⤠	\ncurvearrowleftright	⤡	\nsemmodels
⤢	\ncurvearrowupdown	⤣	\nrightVdash, \nVdash
⤤	\ncurvearrowrightleft	⤥	\nupVdash
⤦	\ncurvearrowdownup	⤧	\nleftVdash
⤨	\ncurvearrownesw	⤩	\ndownVdash
⤪	\ncurvearrownwse	⤪	\nneVdash
⤫	\ncurvearrowswne	⤬	\nnwVdash
⤬	\ncurvearrowsenw	⤭	\nswVdash
⤮	\nleftrightline, \nrelbar	⤯	\nseVdash
⤯	\updownline, \ndivides, \nmid	⤰	\nrightModels, \nVDash
⤰	\nneswline, \ndiagup	⤱	\nupModels
⤱	\nnwseline, \ndiagdown	⤲	\nleftModels
⤲	\nLeftrightline, \nRelbar	⤳	\ndownModels
⤳	\Updownline, \nparallel	⤴	\nneModels
⤴	\Neswline	⤵	\nnwModels
⤵	\Nwseline	⤶	\nswModels
⤶	\nrightvdash, \nvdash	⤷	\nseModels
⤷	\nupvdash, \nperp	⤸	\nrcirclearrowright
⤸	\nleftvdash, \ndashv	⤹	\nrcirclearrowup,
⤹	\ndownvdash	⤺	\ncirclearrowleft
⤺	\nnevdash	⤻	\nrcirclearrowleft
⤻	\nnwvdash	⤼	\nrcirclearrowdown
⤼	\nswvdash	⤽	\nlcirclearrowright
⤽	\nsevdash	⤾	\nlcirclearrowup,
⤾	\nrightmodels, \nmodels,	⤿	\ncirclearrowright
	\nvDash	⤿	\nlcirclearrowleft
⤿	\nupmodels	⤿	\nlcirclearrowdown
⤿	\nleftmodels	⤿	\nrightarrow
⤿	\ndownmodels	⤿	\nleftarrow
⤿	\nnemodels	⤿	\nnemodels

## Binary operators and letters

.	\cdot, \cdotdotp	::	\squaredots
..	\cdotdotdot	⋮	\fivedots
:	::, \vdotdotdot, \colon	-	-, \minus
·	\cdotdotdot		\medvert, \shortmid
·	\ddotdotdot	/	\medslash
··	\cdotdots, \cdots	＼	\medbackslash, \setminus, \smallsetminus
:	\vdots	+	+, \plus
··	\udots	×	\times
··	\ddots	±	\pm
··	\righttherefore	≠	\mp
··	\uptherefore, \therefore	÷	\dotminus
··	\lefttherefore	·	\dotmedvert
··	\downtherefore, \because	÷	\minusdot
··	\diamondddots		

\medvertdot	▶ \filledtriangleleft, \blacktriangleleft
\div	▲ \filledtriangleup
\slashdiv	◀ \filledtriangleleft, \blacktriangleleft
\vertdiv	▼ \filledtriangledown
\backslashbackslashdiv	▷ \medtriangleright, \triangleright
\neg, \lnot, \minushookdown	△ \medtriangleup, \triangle, \vartriangle, \bigtriangleup
\backslashbackneg, \hookdownminus	◁ \medtriangleleft, \triangleleft
\dtimes	▽ \medtriangledown, \bigtriangledown, \triangledown
\rtimes	▷ \largetriangleright
\utimes	△ \largetriangleup
\ltimes	◀ \largetriangleleft
\bowtie, \Join	▽ \largetriangledown
\vertbowtie	○ \circ
\rightY	● \bullet
\upY	○ \medcircle
\leftY	○ \largecircle, \bigcirc
\downY	⊖ \ominus, \circledash
\wedge, \land	○ \overt
\vee, \lor	○ \oslash
\wedgedot	○ \backslash
\veedot	⊕ \oplus
\doublewedge	⊗ \otimes
\doublevee	⊙ \odot
\curlywedge	◎ \circ, \circledcirc
\curlyvee	◎ \triangle
\curlywedgedot	⊗ \circast, \circledast
\curlyveedot	⊗ \ostar
\doublecurlywedge	∅ \diameter, \emptyset,
\doublecurlyvee	\varnothing
\cup	□ \smallsquare
\cap	■ \filsquare
\doublecup, \Cup	□ \medsquare, \square, \Box
\doublecap, \Cap	□ \large square
\cupdot	◊ \smalldiamond, \diamond
\capdot	◆ \filleddiamond
\cupplus, \uplus	◊ \meddiamond, \Diamond
\capplus	◇ \large diamond
\sqcup	□ \boxminus
\sqcap	□ \boxvert
\doublesqcup	□ \boxslash
\doublesqcap	□ \boxbackslash
\sqcupdot	■ \boxplus
\sqcapdot	☒ \boxtimes
\sqcupplus	
\sqcapplus	
\smalltriangleright	
\smalltriangleup	
\smalltriangleleft	
\smalltriangledown	

□	\boxdot	exists
□	\boxbox	\nexists
◊	\diamondminus	\nabla
◊	\diamondvert	\infty
◊	\diamondslash	\smallint
◊	\diamondbackslash	\flat
◊	\diamondplus	\natural
◊	\diamondtimes	\sharp
◊	\diamonddot	\aleph
◊	\diamonddiamond	\beth
★	\smallstar	\gimel
★	\filledstar	\daleth
★	\medstar	\wp
★	\largestar	\powerset
★	\pentagram	\invneg, \minushookup
★	\largepentagram	\invbackneg, \hookupminus
*	\thinstar, \star	\lefthalfcup
*	, \ast	\righthalfcup
∞	\hbipropto	\lefthalfcap
∞	\neswbipropto	\righthalfcap
∞	\vbipropto	\closedsucc
∞	\nwsebipropto	\closedcurlywedge
∞	\leftipropto, \propto,	\closedprec
∞	\varpropto	\closedcurlyvee
∞	\downipropto	\rightslice
∞	\rightipropto	\upslice
∞	\upipropto	\leftslice
∞	\crossing	\downslice
†	\newcrossing	\smalllozenge
†	\vcrossing	\filledlozenge
†	\nwsecrossing	\medlozenge, \lozenge
‡	\between	\filledmedlozenge,
‡	\separated	\blacklozenge
⊥	\bot	\largelozenge
⊤	\top, \intercal	\filledmedtriangleright
⌞	\wreath, \wr	\filledmedtriangleup,
⌞	\angle	\blacktriangle
⌞	\measuredangle	\filledmedtriangleleft
⌞	\sphericalangle	\filledmedtriangledown,
⌞	\prime	\blacktriangledown
⌞	\backprime	\filledmedsquare, \blacksquare
∏	\smallprod	\filledlargestar, \bigstar
∏	\amalg	\medstarofdavid
✓	\checkmark	\largestarofdavid
⚡	\lightning	\maltese
◊	\diamondsuit	\leftthreetimes
♡	\heartsuit	\rightthreetimes
♠	\spadesuit	\nshortmid
♣	\clubsuit	\shortparallel
∀	\forall	\nshortparallel

## Relations

=	=, \equal	<	\sqsmilefrown
$\equiv$	\equivv	$\diamond$	\sqfrownsmile
$\sim$	\sim	$\asymp$	\sqsmileeq
$\sphericalangle$	\backsim	$\triangleright$	\sqfrownneq
$\approx$	\approx	$\triangleleft$	\squeqsmile
$\bowtie$	\backapprox	$\nwarrow$	\squeqfrown
$\bowtie$	\triplesim	$\nwarrow \nwarrow$	\sqdoublesmileeq
$\bowtie$	\backtriplesim	$\nwarrow \nwarrow \nwarrow$	\sqdoublefrownneq
$\simeq$	\simeq	$\nwarrow \nwarrow \nwarrow \nwarrow$	\sqsmileeqfrown
$\simeq$	\backsimeq	$\nwarrow \nwarrow \nwarrow \nwarrow \nwarrow$	\sqfrowneqsmile
$\approx$	\eqsim	$\circ$	\eqcirc
$\approx$	\backeqsim	$\circ \circ$	\circeq
$\cong$	\cong	$\circ \circ \circ$	\triangleeq, \triangleq
$\cong$	\backcong	$\circ \circ \circ \circ$	\hateq
$\approx$	\approxeq	$\in$	\in
$\bowtie$	\backapproxeq	$\ni$	\owns, \ni
$\doteq$	\bumpeq	$<$	<, \less
$\doteq$	\eqbump	$>$	>, \gtr
$\doteq$	\Bumpeq	$\leq$	\leq, \le
$\doteq$	\doteq	$\geq$	\geq, \ge
$\doteq$	\eqdot	$\ll$	\eqslant
$\doteq$	\Doteq, \doteqdot	$\gg$	\eqslant
$\fallingdotseq$	\fallingdotseq	$\leqq$	\leqq
$\risingdotseq$	\risingdotseq	$\geqq$	\geqq
$\smile$	\smile, \smallsmile	$\lessgtr$	\lessgtr
$\frown$	\frown, \smallfrown	$\gtrless$	\gtrless
$\doublesmile$	\doublesmile	$\lesseqgtr$	\lesseqgtr
$\doublefrown$	\doublefrown	$\gtreqless$	\gtreqless
$\bowtie$	\triplesmile	$\lesseqgqtr$	\lesseqgqtr
$\bowtie$	\triplefrown	$\gtreqqless$	\gtreqqless
$\smilefrown$	\smilefrown, \asym	$\lesseqgtrslant$	\lesseqgtrslant
$\frownsmile$	\frownsmile	$\gtreqlessslant$	\gtreqlessslant
$\smileeq$	\smileeq	$\ll$	\ll
$\frownneq$	\frownneq	$\gg$	\gg
$\eqsmile$	\eqsmile	$\lll$	\lll, \llless
$\eqfrown$	\eqfrown	$\ggg$	\ggg, \gggtr
$\bowtie$	\doublesmileeq	$\triangleleft$	\lessclosed, \lhd,
$\bowtie$	\doublefrownneq	$\vartriangleleft$	\vartriangleleft
$\bowtie$	\smileeqfrown	$\triangleright$	\gtrclosed, \rhd,
$\bowtie$	\frowneqsmile	$\vartriangleright$	\vartriangleright
$\bowtie$	\smilefrownneq	$\triangleleft$	\eqclosed, \unlhd,
$\bowtie$	\frownsmileeq	$\triangleleft$	\trianglelefteq
$\smile$	\sqsmile	$\triangleleft$	\geqclosed, \unrhd,
$\frown$	\sqfrown	$\triangleleft$	\trianglerighteq
$\bowtie$	\sqdoublesmile	$\square$	\sqsubset
$\bowtie$	\sqdoublefrown	$\square$	\sqsupset
$\bowtie$	\sqtriplesmile	$\sqsubseteq$	\sqsubseteteq
$\bowtie$	\sqtriplefrown		

\sqsupseteq	\neqsim
\sqsubsetneqq	\nbaceqsim
\sqsupseteqqq	\ncong
\Sqsubset	\nbackcong
\Sqsupset	\napproxeq
\subset	\nbackapproxeq
\supset	\nbump eq
\subsetneq	\neqbump
\supseteq	\nBumpeq
\subsetneqq	\ndoteq
\supseteqqq	\neqdot
\Subset	\nDoteq
\Supset	\nfallingdotseq
\prec	\nrisingdotseq
\succ	\nsmile
\preceq	\nfrown
\succeq	\ndoublesmile
\preccurlyeq	\ndoublefrown
\succcurlyeq	\ntriplesmile
\precsim	\ntriplefrown
\succsim	\nsmilefrown, \nasym
\precapprox	\nfrownsmile
\succapprox	\nsmileeq
\lessdot	\nfrownneq
\gtrdot	\neqsmile
\leqdot	\neqfrown
\geqdot	\ndoublesmileeq
\leqslantdot	\ndoublefrownneq
\geqslantdot	\nsmileeqfrown
\closedeql	\nfrownqsmile
\equalclosed	\nsmilefrownneq
\equivclosed	\nfrownsmileeq
\lessim	\nsqsmile
\gtrsim	\nsqfrown
\lessapprox	\nsqdoublesmile
\gtrapprox	\nsqdoublefrown
\eqslantless	\nsqtriplesmile
\eqslantgr	\nsqtriplefrown
\curlyeqprec	\nsqsmilefrown
\curlyeqsucc	\nsqfrownsmile
\nequal, \neq, \ne	\nsqsmileeq
\nequiv	\nsqfrownneq
\nsim	\nsqe qsmile
\nbacksim	\nsqe qfrown
\napprox	\nsqdoublesmileeq
\nbackapprox	\nsqdoublefrownneq
\ntriplesim	\nsqsmileeqfrown
\nbacktriplesim	\nsqfrownqsmile
\nsimeq	\neqcirc
\nbacksimeq	\ncirceq

$\ntrianglelefteq$	<code>\ntrianglelefteq</code>	$\nSupset$	<code>\nSupset</code>
$\nhateq$	<code>\nhateq</code>	$\nprec$	<code>\nprec</code>
$\nin, \notin$	<code>\nin, \notin</code>	$\nsucc$	<code>\nsucc</code>
$\nowns$	<code>\nowns</code>	$\npreceq, \precneqq$	<code>\npreceq, \precneqq</code>
$\nless$	<code>\nless</code>	$\nsucceq, \succneqq$	<code>\nsucceq, \succneqq</code>
$\ngtr$	<code>\ngtr</code>	$\npreccurlyeq$	<code>\npreccurlyeq</code>
$\nleq, \lneq$	<code>\nleq, \lneq</code>	$\nsucccurlyeq$	<code>\nsucccurlyeq</code>
$\ngeq, \gneq$	<code>\ngeq, \gneq</code>	$\npresim$	<code>\npresim</code>
$\nleqslant$	<code>\nleqslant</code>	$\nsuccsim$	<code>\nsuccsim</code>
$\ngeqslant$	<code>\ngeqslant</code>	$\nprecapprox$	<code>\nprecapprox</code>
$\nleqq$	<code>\nleqq</code>	$\nsuccapprox$	<code>\nsuccapprox</code>
$\ngeqq$	<code>\ngeqq</code>	$\nlessdot$	<code>\nlessdot</code>
$\nlessgtr$	<code>\nlessgtr</code>	$\ngtrdot$	<code>\ngtrdot</code>
$\ngtrless$	<code>\ngtrless</code>	$\nleqdot$	<code>\nleqdot</code>
$\nlesseqgtr$	<code>\nlesseqgtr</code>	$\ngeqdot$	<code>\ngeqdot</code>
$\ngtreqless$	<code>\ngtreqless</code>	$\nleqslantdot$	<code>\nleqslantdot</code>
$\nlesseqgtr$	<code>\nlesseqgtr</code>	$\nleqslantdot$	<code>\nleqslantdot</code>
$\ngtreqless$	<code>\ngtreqless</code>	$\lneqq, \lvertneqq$	<code>\lneqq, \lvertneqq</code>
$\nlesseqgtrslant$	<code>\nlesseqgtrslant</code>	$\gneqq, \gvertneqq$	<code>\gneqq, \gvertneqq</code>
$\ngtreqlessslant$	<code>\ngtreqlessslant</code>	$\lessneqqgtr$	<code>\lessneqqgtr</code>
$\nll$	<code>\nll</code>	$\gtrneqqless$	<code>\gtrneqqless</code>
$\ngg$	<code>\ngg</code>	$\sqsubsetneq$	<code>\sqsubsetneq</code>
$\nlll$	<code>\nlll</code>	$\sqsupsetneq$	<code>\sqsupsetneq</code>
$\nggg$	<code>\nggg</code>	$\sqsubsetneqq$	<code>\sqsubsetneqq</code>
$\nlessclosed, \ntriangleleft$	<code>\nlessclosed, \ntriangleleft</code>	$\sqsupsetneq, \varsupsetneq$	<code>\sqsupsetneq, \varsupsetneq</code>
$\ngtrclosed, \ntriangleright$	<code>\ngtrclosed, \ntriangleright</code>	$\subsetneq, \varsubsetneq$	<code>\subsetneq, \varsubsetneq</code>
$\nleqclosed, \ntrianglelefteq$	<code>\nleqclosed, \ntrianglelefteq</code>	$\subsetneqq, \varsubsetneqq$	<code>\subsetneqq, \varsubsetneqq</code>
$\ngeqclosed, \ntrianglerighteq$	<code>\ngeqclosed, \ntrianglerighteq</code>	$\supsetneq, \varsupsetneq$	<code>\supsetneq, \varsupsetneq</code>
$\nsqsubset$	<code>\nsqsubset</code>	$\precnsim$	<code>\precnsim</code>
$\nsqsupset$	<code>\nsqsupset</code>	$\succnsim$	<code>\succnsim</code>
$\nsqsubseteq$	<code>\nsqsubseteq</code>	$\precnapprox$	<code>\precnapprox</code>
$\nsqsupseteq$	<code>\nsqsupseteq</code>	$\succcnapprox$	<code>\succcnapprox</code>
$\nsqsubseteqq$	<code>\nsqsubseteqq</code>	$\nclosedeql$	<code>\nclosedeql</code>
$\nsqsupseteqq$	<code>\nsqsupseteqq</code>	$\nequalclosed$	<code>\nequalclosed</code>
$\nSqsubset$	<code>\nSqsubset</code>	$\nequivclosed$	<code>\nequivclosed</code>
$\nSqsupset$	<code>\nSqsupset</code>	$\lnsim$	<code>\lnsim</code>
$\nsubset$	<code>\nsubset</code>	$\gnsim$	<code>\gnsim</code>
$\nupset$	<code>\nupset</code>	$\lnapprox$	<code>\lnapprox</code>
$\nsubseteq$	<code>\nsubseteq</code>	$\gnapprox$	<code>\gnapprox</code>
$\nsubseteqq$	<code>\nsubseteqq</code>	$\neqslantless$	<code>\neqslantless</code>
$\nsubeteqq$	<code>\nsubeteqq</code>	$\neqslantgtr$	<code>\neqslantgtr</code>
$\nsubseteqeqq$	<code>\nsubseteqeqq</code>	$\ncurlyeqprec$	<code>\ncurlyeqprec</code>
$\nSubset$	<code>\nSubset</code>	$\ncurlyeqsucc$	<code>\ncurlyeqsucc</code>

## Operators

+	+	\bigplus
$\times$	$\times$	\bigtimes
$\wedge$	$\wedge$	\bigwedge
$\vee$	$\vee$	\bigvee
$\bigwedge$	$\bigwedge$	\bigwedgedot
$\bigvee$	$\bigvee$	\bigveedot
$\bigtriangleleft$	$\bigtriangleleft$	\bigdoublewedge
$\bigtriangleright$	$\bigtriangleright$	\bigdoublevee
$\bigtriangledown$	$\bigtriangledown$	\bigcurlywedge
$\bigtriangledown$	$\bigtriangledown$	\bigcurlyvee
$\bigtriangledown$	$\bigtriangledown$	\bigcurlywedgedot
$\bigtriangledown$	$\bigtriangledown$	\bigcurlyveedot
$\bigtriangleleft$	$\bigtriangleleft$	\bigdoublecurlywedge
$\bigtriangledown$	$\bigtriangledown$	\bigdoublecurlyvee
$\cap$	$\cap$	\bigcap
$\cup$	$\cup$	\bigcup
$\capdot$	$\capdot$	\bigcapdot
$\cupdot$	$\cupdot$	\bigcupdot
$\oplus$	$\oplus$	\bigcapplus, \biguplus
$\oplus$	$\oplus$	\bigcupplus
$\sqcap$	$\sqcap$	\bigsqcap
$\sqcup$	$\sqcup$	\bigsqcup
$\sqcapdot$	$\sqcapdot$	\bigsqcapdot
$\sqcupdot$	$\sqcupdot$	\bigsqcupdot
$\sqcap\sqcup$	$\sqcap\sqcup$	\bigsqcapplus
$\sqcap\sqcup$	$\sqcap\sqcup$	\bigsqcupplus
$\circ$	$\circ$	\bigcircle
$\ominus$	$\ominus$	\bigominus
$\circlearrowleft$	$\circlearrowleft$	\bigovert
$\circlearrowright$	$\circlearrowright$	\bigoslash
$\circlearrowleft\circlearrowright$	$\circlearrowleft\circlearrowright$	\bigobackslash
$\oplus$	$\oplus$	\bigoplus
$\otimes$	$\otimes$	\bigotimes
$\odot$	$\odot$	\bigodot
$\odot\odot$	$\odot\odot$	\bigocirc
$\triangleleft$	$\triangleleft$	\bigtriangleleft
$\otimes\otimes$	$\otimes\otimes$	\bigoast
$\star\star$	$\star\star$	\bigostar
$\prod$	$\prod$	\prod
$\coprod$	$\coprod$	\coprod
$\sum$	$\sum$	\sum
$\int$	$\int$	\int
$\iint$	$\iint$	\iint
$\iiint$	$\iiint$	\iiint
$\iiiiint$	$\iiiiint$	\iiiiint
$\dotsf$	$\dotsf$	\idotsint
$f\ f$	$f\ f$	\landupint
$f\ f$	$f\ f$	\landdownint
$f\ f$	$f\ f$	\strokedint
$\oint$	$\oint$	\oint
$\oint\oint$	$\oint\oint$	\oiint
$\oint\oint$	$\oint\oint$	\rcirclerightint
$\oint\oint$	$\oint\oint$	\lcirclerightint
$\oint\oint$	$\oint\oint$	\rcircleleftint
$\oint\oint$	$\oint\oint$	\lcircleleftint
$\oint$	$\oint$	\sumint
C	C	\complement

### Braces and accents

$(((($	$)})\}$	$\} \}$	\rbrace, \}
$))))))$	$)$	$\langle \langle \langle$	\langleangle
$\Big[\Big[\Big[$	$[$	$\rangle \rangle \rangle$	\rangleangle
$]]]$	$]$	$\langle \langle \langle$	\langleanglebar
$\Big\{\Big\{\Big\{$	$\{$	$\rangle \rangle \rangle$	\rangleanglebar

$\langle\langle\langle\langle\langle$	$\backslash langle$	$\rangle\rangle\rangle\rangle\rangle$	$\backslash rrangle$	$\parallel\parallel\parallel\parallel$	$\backslash rvert$
$\lfloor\lfloor\lfloor$	$\backslash lfloor$	$\rfloor\rfloor\rfloor$	$\backslash rfloor$	$\parallel\parallel\parallel\parallel$	$\backslash mVert$
$\lceil\lceil\lceil$	$\backslash lceil$	$\rceil\rceil\rceil$	$\backslash rceil$	$\parallel\parallel\parallel\parallel$	$\backslash lVert$
$\lceil\lceil\lceil$	$\backslash lceil$	$\rceil\rceil\rceil$	$\backslash rceil$	$\cdot\parallel\parallel\parallel$	$\backslash rVert$
$\lceil\lceil\lceil$	$\backslash lceil$	$\rceil\rceil\rceil$	$\backslash rceil$	$\cdot\parallel\parallel\parallel$	$\backslash arrowvert$
$\lceil\lceil\lceil$	$\backslash lceil$	$\rceil\rceil\rceil$	$\backslash rceil$	$\cdot\parallel\parallel\parallel$	$\backslash Arrowvert$
$\lceil\lceil\lceil$	$\backslash lceil$	$\rceil\rceil\rceil$	$\backslash rceil$	$\{\}\}\}$	$\backslash lwavey$
$\lceil\lceil\lceil$	$\backslash lceil$	$\rceil\rceil\rceil$	$\backslash rceil$	$\}\}\}\}$	$\backslash rwavey$
$\lceil\lceil\lceil$	$\backslash lceil$	$\rceil\rceil\rceil$	$\backslash rceil$	$\{\}\}\}\}$	$\backslash lWavy$
$\lceil\lceil\lceil$	$\backslash lceil$	$\rceil\rceil\rceil$	$\backslash rceil$	$\}\}\}\}\}$	$\backslash rWavy$
$\lceil\lceil\lceil$	$\backslash lceil$	$\rceil\rceil\rceil$	$\backslash rceil$	$\Big(\Big(\Big(\Big($	$\backslash lgroup$
$\lceil\lceil\lceil$	$\backslash lceil$	$\rceil\rceil\rceil$	$\backslash rceil$	$\Big)\Big)\Big)\Big)$	$\backslash rgroup$
$\lceil\lceil\lceil$	$\backslash lceil$	$\rceil\rceil\rceil$	$\backslash rceil$	$\Big)\Big)\Big)\Big)$	$\backslash lmoustache$
$\lceil\lceil\lceil$	$\backslash lceil$	$\rceil\rceil\rceil$	$\backslash rceil$	$\cdot\{\}\}$	$\backslash rmoustache$
$\lceil\lceil\lceil$	$\backslash lceil$	$\rceil\rceil\rceil$	$\backslash rceil$	$\cdot\parallel\parallel\parallel$	$\backslash bracevert$
$\lceil\lceil\lceil$	$\backslash lceil$	$\rceil\rceil\rceil$	$\backslash rceil$	$\uparrow\uparrow\uparrow\uparrow$	$\backslash uparrow$
$\lceil\lceil\lceil$	$\backslash lceil$	$\rceil\rceil\rceil$	$\backslash rceil$	$\downarrow\downarrow\downarrow\downarrow$	$\backslash downarrow$
$\lceil\lceil\lceil$	$\backslash lceil$	$\rceil\rceil\rceil$	$\backslash rceil$	$\uparrow\downarrow\uparrow\downarrow$	$\backslash updownarrow$

## Faked symbols

The following symbols are taken from the text font or they are assembled from several glyphs.

$\coloneq$	$\hbar$	$\backslash hslash$
$\dagger$	$\circledR$	$\backslash circledR$
$\ddagger$	$\circledS$	$\backslash circledS$
$\P$	$\dotplus$	$\backslash dotplus$
$\S$	$\thicksim$	$\backslash thicksim$
$\$$	$\approx$	$\backslash thickapprox$
$\pounds$	$\veebar$	$\backslash veebar$
$\text{\textyen}$	$\wedgebar$	$\backslash barwedge$
$\Re$	$\geqq$	$\backslash doublebarwedge$
$\Im$	$\centerdot$	$\backslash centerdot$
$\hbar$	$\divideontimes$	$\backslash divideontimes$

**Missing symbols.** The following symbols from Computer Modern or the AMS fonts are missing in MnSymbol. If available they should be taken from the text font. (For instance, the MinionPro package defines most of them.)

\mho	\digamma	\mapstochar
\Finv	\varkappa	\lhook
\Game	\Bbbk	
\eth	\backepsilon	\rhook

## 1 The style file

```
1 {*style}
2 \ProvidesPackage{MnSymbol}[2007/01/21 v1.4 support for the MnSymbol font]
```

Options to select the calligraphic font.

```
3 \DeclareOption{mnsy}{%
4   \def\@Mn@Load@Cal@Font{%
5     \DeclareMathAlphabet{\mathcal}{OMS}{MnSymbols}{m}{n}%
6     \SetMathAlphabet{\mathcal}{bold}{OMS}{MnSymbols}{b}{n}}%
7 \DeclareOption{cmsy}{%
8   \def\@Mn@Load@Cal@Font{%
9     \DeclareMathAlphabet{\mathcal}{OMS}{cmsy}{m}{n}%
10    \SetMathAlphabet{\mathcal}{bold}{OMS}{cmsy}{b}{n}}%
11 \DeclareOption{abx}{%
12   \def\@Mn@Load@Cal@Font{%
13     \DeclareFontFamily{OT1}{mathc}{%
14       \DeclareFontShape{OT1}{mathc}{m}{n}{<->mathcm10}{}%
15       \DeclareFontShape{OT1}{mathc}{b}{n}{<->mathcb10}{}%
16     \DeclareMathAlphabet{\mathcal}{OT1}{mathc}{m}{n}%
17     \SetMathAlphabet{\mathcal}{bold}{OT1}{mathc}{b}{n}}}}
```

Some symbols missing from MnSymbol can be obtained from other fonts or by combining several other symbols.

```
18 \newcommand*\@Fake@Missing{%
19   \ifpackageloaded{textcomp}{}{\RequirePackage{textcomp}}
20   \ifundefined{mathfrak}{}{\RequirePackage{eufrak}}%
21
22   \ DeclareRobustCommand{\dagger}{\@Text@With@MathVersion{\textdagger}}%
23   \ DeclareRobustCommand{\ddagger}{\@Text@With@MathVersion{\textdaggerdbl}}%
24   \ DeclareRobustCommand{\mathparagraph}{\@Text@With@MathVersion{\textparagraph}}%
25   \ DeclareRobustCommand{\mathsection}{\@Text@With@MathVersion{\textsection}}%
26   \ DeclareRobustCommand{\mathdollar}{\@Text@With@MathVersion{\textdollar}}%
27   \ DeclareRobustCommand{\mathsterling}{\@Text@With@MathVersion{\textsterling}}%
28   \ DeclareRobustCommand{\yen}{\@Text@With@MathVersion{\textyen}}%
29   \ DeclareRobustCommand{\circledR}{\@Text@With@MathVersion{\textcircled{%
30           \check@mathfonts\fontsize\sf@size\z@\math@fontsfalse\selectf
31           \ DeclareRobustCommand{\circledS}{\@Text@With@MathVersion{\textcircled{%
32               \check@mathfonts\fontsize\sf@size\z@\math@fontsfalse\selectf
33           \ DeclareRobustCommand{\Re}{\mathfrak{R}}%
34           \ DeclareRobustCommand{\Im}{\mathfrak{I}}%
35           \ DeclareRobustCommand{\dotplus}{\dot{+}}%
36           \ DeclareRobustCommand{\thicksim}{\mathrel{\text{\boldsymbol{$\sim$}}}}%
37           \ DeclareRobustCommand{\thickapprox}{\mathrel{\text{\boldsymbol{$\approx$}}}}%
38           \let\hbar\undefined
39           \let\hslash\undefined
40           % Hack for backward compatibility with the MinionPro package:
41           % If the package is loaded then we do not need to define \hbar.
42           \ifpackageloaded{MinionPro}{}{}}
```

```

43  \DeclareRobustCommand{\hbar}{\middlebar h}
44  \DeclareRobustCommand{\hslash}{\middleslash h}
45
46  \let\lneq\nleq
47  \let\gneq\ngeq
48  \let\precneqq\npreceq
49  \let\succneqq\nsucceq
50  \DeclareRobustCommand\veebar{\mathbin{\underline{\vee}}}
51  \DeclareRobustCommand\barwedge{\mathbin{\overline{\wedge}}}
52  \DeclareRobustCommand\doublebarwedge{\mathbin{\overline{\overline{\wedge}}}}
53  \DeclareRobustCommand\centerdot{\mathbin{\rule{0.15em}{0.15em}}}
54  \DeclareRobustCommand\divideontimes{\mathbin{\oalign{$\div$\cr\cr$\times$}}}

```

MnSymbol lacks some symbols that are present in the Computer Modern or the AMS fonts. In order to warn the user we undefine the corresponding commands.

(a) Missing letters.

```

55  \let\eth\undefined
56  \let\digamma\undefined
57  \let\varkappa\undefined
58  \let\backepsilon\undefined
59
60  \let\mho\undefined
61  \let\Finv\undefined
62  \let\Game\undefined
63  \let\Bbbk\undefined

```

(b) Unneeded partial symbols.

```

64  \let\mapstochar\undefined
65  \let\lhook\undefined
66  \let\rhook\undefined
67 }
68 \DeclareOption{retainmissing}{\let\Mn@Fake@Missing\relax}
69
70 \ExecuteOptions{mnsy}
71 \ProcessOptions\relax

```

Loading external packages. But only if they are not already loaded in order to avoid warning messages about loading a package twice with different options.

```

72 \@ifpackageloaded{amsmath}{}{\RequirePackage{amsmath}}
73 \Mn@Fake@Missing

```

Short hands to simplify the definitions below.

```

74 \def\Set@Mn@Sym#1{@tempcnta #1\relax}
75 \def\Next@Mn@Sym{\advance\@tempcnta 1\relax}
76 \def\Prev@Mn@Sym{\advance\@tempcnta-1\relax}
77
78 \def\@Decl@Mn@Sym#1#2#3#4{\DeclareMathSymbol{#2}{#3}{#4}{#1}}
79 \def\Decl@Mn@Sym#1#2#3{%
80   \if\relax\noexpand#1%
81     \let#1\undefined
82   \fi
83   \expandafter\@Decl@Mn@Sym\expandafter{\the\@tempcnta}{#1}{#3}{#2}%
84   \Next@Mn@Sym}
85 \def\Dec1@Mn@Alias#1#2#3{\Prev@Mn@Sym\Decl@Mn@Sym{#1}{#2}{#3}}
86 \let\Dec1@Mn@Char\Dec1@Mn@Sym
87 \def\Dec1@Mn@Op#1#2#3{\def#1{\DOTSB#3\slimits@}}

```

```

88 \def\Decl@Mn@Int#1#2#3{\def#1{\DOTSI#3\ilimits@}}
89
90 \def\Decl@Mn@Delim#1#2#3#4{%
91   \if\relax\noexpand#1%
92     \let#1\undefined
93   \fi
94   \DeclareMathDelimiter{#1}{#2}{#3}{#4}{#3}{#4}}
95 \def\Decl@Mn@Open#1#2#3{\Decl@Mn@Delim{#1}{\mathopen}{#2}{#3}}
96 \def\Decl@Mn@Close#1#2#3{\Decl@Mn@Delim{#1}{\mathclose}{#2}{#3}}
```

Font definitions.

```

97 \DeclareFontFamily{U}  {MnSymbolA}{}
98 \DeclareFontFamily{U}  {MnSymbolB}{}
99 \DeclareFontFamily{U}  {MnSymbolC}{}
100 \DeclareFontFamily{U}  {MnSymbolD}{}
101 \DeclareFontFamily{OMX}{MnSymbolE}{}
102 \DeclareFontFamily{U}  {MnSymbolF}{}
103 \DeclareFontFamily{OMS}{MnSymbolS}{\skewchar\font=0}
104 \DeclareSymbolFont{MnSyA}      {U}  {MnSymbolA}{m}{n}
105 \DeclareSymbolFont{MnSyB}      {U}  {MnSymbolB}{m}{n}
106 \DeclareSymbolFont{MnSyC}      {U}  {MnSymbolC}{m}{n}
107 \DeclareSymbolFont{MnSyD}      {U}  {MnSymbolD}{m}{n}
108 \DeclareSymbolFont{largesymbols} {OMX}{MnSymbolE}{m}{n}
109 \DeclareSymbolFont{symbols}    {U}  {MnSymbolF}{m}{n}
110 \SetSymbolFont{MnSyA}        {bold}{U}  {MnSymbolA}{b}{n}
111 \SetSymbolFont{MnSyB}        {bold}{U}  {MnSymbolB}{b}{n}
112 \SetSymbolFont{MnSyC}        {bold}{U}  {MnSymbolC}{b}{n}
113 \SetSymbolFont{MnSyD}        {bold}{U}  {MnSymbolD}{b}{n}
114 \SetSymbolFont{largesymbols}{bold}{OMX}{MnSymbolE}{b}{n}
115 \SetSymbolFont{symbols}     {bold}{U}  {MnSymbolF}{b}{n}
116
117 \DeclareFontShape{U}{MnSymbolA}{m}{n}{%
118   <-6>  MnSymbolA5
119   <6-7>  MnSymbolA6
120   <7-8>  MnSymbolA7
121   <8-9>  MnSymbolA8
122   <9-10> MnSymbolA9
123   <10-12> MnSymbolA10
124   <12->  MnSymbolA12}{}
125 \DeclareFontShape{U}{MnSymbolA}{b}{n}{%
126   <-6>  MnSymbolA-Bold5
127   <6-7>  MnSymbolA-Bold6
128   <7-8>  MnSymbolA-Bold7
129   <8-9>  MnSymbolA-Bold8
130   <9-10> MnSymbolA-Bold9
131   <10-12> MnSymbolA-Bold10
132   <12->  MnSymbolA-Bold12}{}
133 \DeclareFontShape{U}{MnSymbolB}{m}{n}{%
134   <-6>  MnSymbolB5
135   <6-7>  MnSymbolB6
136   <7-8>  MnSymbolB7
137   <8-9>  MnSymbolB8
138   <9-10> MnSymbolB9
139   <10-12> MnSymbolB10
140   <12->  MnSymbolB12}{}
```

```

141 \DeclareFontShape{U}{MnSymbolB}{b}{n}{
142     <-6> MnSymbolB-Bold5
143     <6-7> MnSymbolB-Bold6
144     <7-8> MnSymbolB-Bold7
145     <8-9> MnSymbolB-Bold8
146     <9-10> MnSymbolB-Bold9
147     <10-12> MnSymbolB-Bold10
148     <12-> MnSymbolB-Bold12}{}
149 \DeclareFontShape{U}{MnSymbolC}{m}{n}{
150     <-6> MnSymbolC5
151     <6-7> MnSymbolC6
152     <7-8> MnSymbolC7
153     <8-9> MnSymbolC8
154     <9-10> MnSymbolC9
155     <10-12> MnSymbolC10
156     <12-> MnSymbolC12}{}
157 \DeclareFontShape{U}{MnSymbolC}{b}{n}{
158     <-6> MnSymbolC-Bold5
159     <6-7> MnSymbolC-Bold6
160     <7-8> MnSymbolC-Bold7
161     <8-9> MnSymbolC-Bold8
162     <9-10> MnSymbolC-Bold9
163     <10-12> MnSymbolC-Bold10
164     <12-> MnSymbolC-Bold12}{}
165 \DeclareFontShape{U}{MnSymbolD}{m}{n}{
166     <-6> MnSymbolD5
167     <6-7> MnSymbolD6
168     <7-8> MnSymbolD7
169     <8-9> MnSymbolD8
170     <9-10> MnSymbolD9
171     <10-12> MnSymbolD10
172     <12-> MnSymbolD12}{}
173 \DeclareFontShape{U}{MnSymbolD}{b}{n}{
174     <-6> MnSymbolD-Bold5
175     <6-7> MnSymbolD-Bold6
176     <7-8> MnSymbolD-Bold7
177     <8-9> MnSymbolD-Bold8
178     <9-10> MnSymbolD-Bold9
179     <10-12> MnSymbolD-Bold10
180     <12-> MnSymbolD-Bold12}{}
181 \DeclareFontShape{OMX}{MnSymbolE}{m}{n}{
182     <-6> MnSymbolE5
183     <6-7> MnSymbolE6
184     <7-8> MnSymbolE7
185     <8-9> MnSymbolE8
186     <9-10> MnSymbolE9
187     <10-12> MnSymbolE10
188     <12-> MnSymbolE12}{}
189 \DeclareFontShape{OMX}{MnSymbolE}{b}{n}{
190     <-6> MnSymbolE-Bold5
191     <6-7> MnSymbolE-Bold6
192     <7-8> MnSymbolE-Bold7
193     <8-9> MnSymbolE-Bold8
194     <9-10> MnSymbolE-Bold9

```

```

195  <10-12> MnSymbolE-Bold10
196  <12-> MnSymbolE-Bold12}{}
197 \DeclareFontShape{U}{MnSymbolF}{m}{n}{
198  <-6> MnSymbolF5
199  <6-7> MnSymbolF6
200  <7-8> MnSymbolF7
201  <8-9> MnSymbolF8
202  <9-10> MnSymbolF9
203  <10-12> MnSymbolF10
204  <12-> MnSymbolF12}{}
205 \DeclareFontShape{U}{MnSymbolF}{b}{n}{
206  <-6> MnSymbolF-Bold5
207  <6-7> MnSymbolF-Bold6
208  <7-8> MnSymbolF-Bold7
209  <8-9> MnSymbolF-Bold8
210  <9-10> MnSymbolF-Bold9
211  <10-12> MnSymbolF-Bold10
212  <12-> MnSymbolF-Bold12}{}
213 \DeclareFontShape{OMS}{MnSymbols}{m}{n}{
214  <-6> MnSymbolS5
215  <6-7> MnSymbolS6
216  <7-8> MnSymbolS7
217  <8-9> MnSymbolS8
218  <9-10> MnSymbolS9
219  <10-12> MnSymbolS10
220  <12-> MnSymbolS12}{}
221 \DeclareFontShape{OMS}{MnSymbols}{b}{n}{
222  <-6> MnSymbolS-Bold5
223  <6-7> MnSymbolS-Bold6
224  <7-8> MnSymbolS-Bold7
225  <8-9> MnSymbolS-Bold8
226  <9-10> MnSymbolS-Bold9
227  <10-12> MnSymbolS-Bold10
228  <12-> MnSymbolS-Bold12}{}
229
230 \Mn@Load@Cal@Font

A command to take math symbols from text fonts.
231 \def\Mn@Bold{\bold}
232 \def\Mn@Text@With@MathVersion#1{
233  \ifx\Mn@Bold\math@version
234  \text{\bfseries#1}%
235  \else
236  \text{\mdseries#1}%
237  \fi}

MnSymbolA: arrows.
238 \Set@Mn@Sym{0}
239 \Decl@Mn@Char\rightarrowarrow          {MnSyA}{\mathrel}
240  \Decl@Mn@Alias\to                  {MnSyA}{\mathrel}
241 \Decl@Mn@Char\uparrowarrow          {MnSyA}{\mathrel}
242 \Decl@Mn@Char\leftarrowarrow        {MnSyA}{\mathrel}
243  \Decl@Mn@Alias\gets                {MnSyA}{\mathrel}
244 \Decl@Mn@Char\downarrowarrow        {MnSyA}{\mathrel}
245 \Decl@Mn@Char\nearrowarrow         {MnSyA}{\mathrel}

```

```

246 \Decl@Mn@Char\nwarrow {MnSyA}{\mathrel}
247 \Decl@Mn@Char\swarrow {MnSyA}{\mathrel}
248 \Decl@Mn@Char\searrow {MnSyA}{\mathrel}
249 \Decl@Mn@Char\Rightarrow {MnSyA}{\mathrel}
250 \Decl@Mn@Char\Uparrow {MnSyA}{\mathrel}
251 \Decl@Mn@Char\Leftarrow {MnSyA}{\mathrel}
252 \Decl@Mn@Char\Downarrow {MnSyA}{\mathrel}
253 \Decl@Mn@Char\Narrowarrow {MnSyA}{\mathrel}
254 \Decl@Mn@Char\Nwarrow {MnSyA}{\mathrel}
255 \Decl@Mn@Char\Swarrow {MnSyA}{\mathrel}
256 \Decl@Mn@Char\Searrow {MnSyA}{\mathrel}
257 \Decl@Mn@Char\leftrightarrow {MnSyA}{\mathrel}
258 \Decl@Mn@Char\updownarrow {MnSyA}{\mathrel}
259 \Decl@Mn@Char\nesarrow {MnSyA}{\mathrel}
260 \Decl@Mn@Char\nwsearrow {MnSyA}{\mathrel}
261 \Decl@Mn@Char\leftrightsquigarrow {MnSyA}{\mathrel}
262 \Decl@Mn@Char\updownsquigarrow {MnSyA}{\mathrel}
263 \Decl@Mn@Char\Nesarrow {MnSyA}{\mathrel}
264 \Decl@Mn@Char\Nwsearrow {MnSyA}{\mathrel}
265 \Decl@Mn@Char\twoheadrightarrow {MnSyA}{\mathrel}
266 \Decl@Mn@Char\twoheaduparrow {MnSyA}{\mathrel}
267 \Decl@Mn@Char\twoheadleftarrow {MnSyA}{\mathrel}
268 \Decl@Mn@Char\twoheaddownarrow {MnSyA}{\mathrel}
269 \Decl@Mn@Char\twoheadnearrow {MnSyA}{\mathrel}
270 \Decl@Mn@Char\twoheadnarrow {MnSyA}{\mathrel}
271 \Decl@Mn@Char\twoheadswarrow {MnSyA}{\mathrel}
272 \Decl@Mn@Char\twoheadsearrow {MnSyA}{\mathrel}
273 \Decl@Mn@Char\rightarrowtail {MnSyA}{\mathrel}
274 \Decl@Mn@Char\uparrowtail {MnSyA}{\mathrel}
275 \Decl@Mn@Char\leftarrowtail {MnSyA}{\mathrel}
276 \Decl@Mn@Char\downarrowtail {MnSyA}{\mathrel}
277 \Decl@Mn@Char\nearrowtail {MnSyA}{\mathrel}
278 \Decl@Mn@Char\nwarrowtail {MnSyA}{\mathrel}
279 \Decl@Mn@Char\swarrowtail {MnSyA}{\mathrel}
280 \Decl@Mn@Char\searrowtail {MnSyA}{\mathrel}
281 \Decl@Mn@Char\rightarrowmapsto {MnSyA}{\mathrel}
282 \Decl@Mn@Alias\mapsto {MnSyA}{\mathrel}
283 \Decl@Mn@Char\upmapsto {MnSyA}{\mathrel}
284 \Decl@Mn@Char\leftmapsto {MnSyA}{\mathrel}
285 \Decl@Mn@Char\downmapsto {MnSyA}{\mathrel}
286 \Decl@Mn@Char\nemapsto {MnSyA}{\mathrel}
287 \Decl@Mn@Char\nwmapsto {MnSyA}{\mathrel}
288 \Decl@Mn@Char\swmapsto {MnSyA}{\mathrel}
289 \Decl@Mn@Char\semapsto {MnSyA}{\mathrel}
290 \Decl@Mn@Char\lhookrightarrow {MnSyA}{\mathrel}
291 \Decl@Mn@Alias\hookrightarrow {MnSyA}{\mathrel}
292 \Decl@Mn@Char\lhookuparrow {MnSyA}{\mathrel}
293 \Decl@Mn@Char\lhookleftarrow {MnSyA}{\mathrel}
294 \Decl@Mn@Char\lhookdownarrow {MnSyA}{\mathrel}
295 \Decl@Mn@Char\lhooknearrow {MnSyA}{\mathrel}
296 \Decl@Mn@Char\lhooknarrow {MnSyA}{\mathrel}
297 \Decl@Mn@Char\lhookswarrow {MnSyA}{\mathrel}
298 \Decl@Mn@Char\lhooksearrow {MnSyA}{\mathrel}
299 \Decl@Mn@Char\rhookrightarrow {MnSyA}{\mathrel}

```

```

300 \Decl@Mn@Char\rhookuparrow {MnSyA}{\mathrel}
301 \Decl@Mn@Char\rhookleftarrow {MnSyA}{\mathrel}
302 \Decl@Mn@Alias\hookleftarrow {MnSyA}{\mathrel}
303 \Decl@Mn@Char\rhookdownarrow {MnSyA}{\mathrel}
304 \Decl@Mn@Char\rhooknearrow {MnSyA}{\mathrel}
305 \Decl@Mn@Char\rhooknwarrow {MnSyA}{\mathrel}
306 \Decl@Mn@Char\rhookswarrow {MnSyA}{\mathrel}
307 \Decl@Mn@Char\rhooksearrow {MnSyA}{\mathrel}
308 \Decl@Mn@Char\rightharpoonccw {MnSyA}{\mathrel}
309 \Decl@Mn@Alias\rightharpoonup {MnSyA}{\mathrel}
310 \Decl@Mn@Char\upharpoonccw {MnSyA}{\mathrel}
311 \Decl@Mn@Alias\upharpoonleft {MnSyA}{\mathrel}
312 \Decl@Mn@Char\leftharpoonccw {MnSyA}{\mathrel}
313 \Decl@Mn@Alias\leftharpoondown {MnSyA}{\mathrel}
314 \Decl@Mn@Char\downharpoonccw {MnSyA}{\mathrel}
315 \Decl@Mn@Alias\downharpoonright {MnSyA}{\mathrel}
316 \Decl@Mn@Char\neharpoonccw {MnSyA}{\mathrel}
317 \Decl@Mn@Char\nwharpoonccw {MnSyA}{\mathrel}
318 \Decl@Mn@Char\swharpoonccw {MnSyA}{\mathrel}
319 \Decl@Mn@Char\seharpoonccw {MnSyA}{\mathrel}
320 \Decl@Mn@Char\rightharpooncw {MnSyA}{\mathrel}
321 \Decl@Mn@Alias\rightharpoondown {MnSyA}{\mathrel}
322 \Decl@Mn@Char\upharpooncw {MnSyA}{\mathrel}
323 \Decl@Mn@Alias\upharpoonright {MnSyA}{\mathrel}
324 \Decl@Mn@Alias\restriction {MnSyA}{\mathrel}
325 \Decl@Mn@Char\leftharpooncw {MnSyA}{\mathrel}
326 \Decl@Mn@Alias\leftharpoonup {MnSyA}{\mathrel}
327 \Decl@Mn@Char\downharpooncw {MnSyA}{\mathrel}
328 \Decl@Mn@Alias\downharpoonleft {MnSyA}{\mathrel}
329 \Decl@Mn@Char\neharpooncw {MnSyA}{\mathrel}
330 \Decl@Mn@Char\nwharpooncw {MnSyA}{\mathrel}
331 \Decl@Mn@Char\swharpooncw {MnSyA}{\mathrel}
332 \Decl@Mn@Char\seharpooncw {MnSyA}{\mathrel}
333 \Decl@Mn@Char\leftrightharpoonupdown {MnSyA}{\mathrel}
334 \Decl@Mn@Char\updownharpoonleftright {MnSyA}{\mathrel}
335 \Decl@Mn@Char\neswharpoonnwse {MnSyA}{\mathrel}
336 \Decl@Mn@Char\nwseharpoonnesw {MnSyA}{\mathrel}
337 \Decl@Mn@Char\leftrightharpoondownup {MnSyA}{\mathrel}
338 \Decl@Mn@Char\updownharpoonrightleft {MnSyA}{\mathrel}
339 \Decl@Mn@Char\neswharpoonsenw {MnSyA}{\mathrel}
340 \Decl@Mn@Char\nwseharpoonsyne {MnSyA}{\mathrel}
341 \Decl@Mn@Char\rightleftharpoons {MnSyA}{\mathrel}
342 \Decl@Mn@Char\updownharpoons {MnSyA}{\mathrel}
343 \Decl@Mn@Char\neswharpoons {MnSyA}{\mathrel}
344 \Decl@Mn@Char\senwharpoons {MnSyA}{\mathrel}
345 \Decl@Mn@Char\leftrightharpoons {MnSyA}{\mathrel}
346 \Decl@Mn@Char\downupharpoons {MnSyA}{\mathrel}
347 \Decl@Mn@Char\swneharpoons {MnSyA}{\mathrel}
348 \Decl@Mn@Char\ nwseharpoons {MnSyA}{\mathrel}
349 \Decl@Mn@Char\dashedrightarrow {MnSyA}{\mathrel}
350 \Decl@Mn@Alias\dashrightarrow {MnSyA}{\mathrel}
351 \Decl@Mn@Alias\dasharrow {MnSyA}{\mathrel}
352 \Decl@Mn@Char\dasheduparrow {MnSyA}{\mathrel}
353 \Decl@Mn@Char\dashedleftarrow {MnSyA}{\mathrel}

```

```

354 \Decl@Mn@Alias\dashleftarrow {MnSyA}{\mathrel}
355 \Decl@Mn@Char\dasheddownarrow {MnSyA}{\mathrel}
356 \Decl@Mn@Char\dashednearrow {MnSyA}{\mathrel}
357 \Decl@Mn@Char\dashednwarrow {MnSyA}{\mathrel}
358 \Decl@Mn@Char\dashedswarrow {MnSyA}{\mathrel}
359 \Decl@Mn@Char\dashedsearrow {MnSyA}{\mathrel}
360 \Decl@Mn@Char\rightspoon {MnSyA}{\mathrel}
361 \Decl@Mn@Alias\multimap {MnSyA}{\mathrel}
362 \Decl@Mn@Char\upspoon {MnSyA}{\mathrel}
363 \Decl@Mn@Char\leftspoon {MnSyA}{\mathrel}
364 \Decl@Mn@Char\downspoon {MnSyA}{\mathrel}
365 \Decl@Mn@Char\nespoon {MnSyA}{\mathrel}
366 \Decl@Mn@Char\nwspoon {MnSyA}{\mathrel}
367 \Decl@Mn@Char\swspoon {MnSyA}{\mathrel}
368 \Decl@Mn@Char\sespoon {MnSyA}{\mathrel}
369 \Decl@Mn@Char\rightfilledspoon {MnSyA}{\mathrel}
370 \Decl@Mn@Char\upfilledspoon {MnSyA}{\mathrel}
371 \Decl@Mn@Char\leftfilledspoon {MnSyA}{\mathrel}
372 \Decl@Mn@Char\downfilledspoon {MnSyA}{\mathrel}
373 \Decl@Mn@Char\nefilledspoon {MnSyA}{\mathrel}
374 \Decl@Mn@Char\nwfilledspoon {MnSyA}{\mathrel}
375 \Decl@Mn@Char\swfilledspoon {MnSyA}{\mathrel}
376 \Decl@Mn@Char\sefilledspoon {MnSyA}{\mathrel}
377 \Decl@Mn@Char\rightfootline {MnSyA}{\mathrel}
378 \Decl@Mn@Char\upfootline {MnSyA}{\mathrel}
379 \Decl@Mn@Char\leftfootline {MnSyA}{\mathrel}
380 \Decl@Mn@Char\downfootline {MnSyA}{\mathrel}
381 \Decl@Mn@Char\nefootline {MnSyA}{\mathrel}
382 \Decl@Mn@Char\nwfootline {MnSyA}{\mathrel}
383 \Decl@Mn@Char\swfootline {MnSyA}{\mathrel}
384 \Decl@Mn@Char\sefootline {MnSyA}{\mathrel}
385 \Decl@Mn@Char\rightfree {MnSyA}{\mathrel}
386 \Decl@Mn@Char\upfree {MnSyA}{\mathrel}
387 \Decl@Mn@Char\leftfree {MnSyA}{\mathrel}
388 \Decl@Mn@Char\downfree {MnSyA}{\mathrel}
389 \Decl@Mn@Char\nefree {MnSyA}{\mathrel}
390 \Decl@Mn@Char\nwfree {MnSyA}{\mathrel}
391 \Decl@Mn@Char\swfree {MnSyA}{\mathrel}
392 \Decl@Mn@Char\sefree {MnSyA}{\mathrel}
393 \Decl@Mn@Char\rightpitchfork {MnSyA}{\mathrel}
394 \Decl@Mn@Char\uppitchfork {MnSyA}{\mathrel}
395 \Decl@Mn@Alias\pitchfork {MnSyA}{\mathrel}
396 \Decl@Mn@Char\leftpitchfork {MnSyA}{\mathrel}
397 \Decl@Mn@Char\downpitchfork {MnSyA}{\mathrel}
398 \Decl@Mn@Char\nepitchfork {MnSyA}{\mathrel}
399 \Decl@Mn@Char\wpitchfork {MnSyA}{\mathrel}
400 \Decl@Mn@Char\swpitchfork {MnSyA}{\mathrel}
401 \Decl@Mn@Char\sepitchfork {MnSyA}{\mathrel}
402 \Decl@Mn@Char\rightrightarrows {MnSyA}{\mathrel}
403 \Decl@Mn@Char\upuparrows {MnSyA}{\mathrel}
404 \Decl@Mn@Char\leftleftarrows {MnSyA}{\mathrel}
405 \Decl@Mn@Char\downdownarrows {MnSyA}{\mathrel}
406 \Decl@Mn@Char\nenearrows {MnSyA}{\mathrel}
407 \Decl@Mn@Char\wnwarrow {MnSyA}{\mathrel}

```

```

408 \Decl@Mn@Char\swswarrows           {MnSyA}{\mathrel}
409 \Decl@Mn@Char\sesearrowss          {MnSyA}{\mathrel}
410 \Decl@Mn@Char\rightleftarrows       {MnSyA}{\mathrel}
411 \Decl@Mn@Char\updownarrows         {MnSyA}{\mathrel}
412 \Decl@Mn@Char\neswarrows          {MnSyA}{\mathrel}
413 \Decl@Mn@Char\nwsearrowss         {MnSyA}{\mathrel}
414 \Decl@Mn@Char\leftrightarrows      {MnSyA}{\mathrel}
415 \Decl@Mn@Char\downuparrows         {MnSyA}{\mathrel}
416 \Decl@Mn@Char\swnearrowss         {MnSyA}{\mathrel}
417 \Decl@Mn@Char\senarrowss          {MnSyA}{\mathrel}
418 \Decl@Mn@Char\rightlsquigarrow     {MnSyA}{\mathrel}
419 \Decl@Mn@Alias\leadsto             {MnSyA}{\mathrel}
420 \Decl@Mn@Alias\rightsquigarrow      {MnSyA}{\mathrel}
421 \Decl@Mn@Char\uplsquigarrow        {MnSyA}{\mathrel}
422 \Decl@Mn@Char\leftlsquigarrow      {MnSyA}{\mathrel}
423 \Decl@Mn@Char\downlsquigarrow       {MnSyA}{\mathrel}
424 \Decl@Mn@Char\nelsquigarrow        {MnSyA}{\mathrel}
425 \Decl@Mn@Char\nwlsquigarrow        {MnSyA}{\mathrel}
426 \Decl@Mn@Char\swlsquigarrow        {MnSyA}{\mathrel}
427 \Decl@Mn@Char\selsquigarrow        {MnSyA}{\mathrel}
428 \Decl@Mn@Char\rightrsquigarrow      {MnSyA}{\mathrel}
429 \Decl@Mn@Char\uprsquigarrow        {MnSyA}{\mathrel}
430 \Decl@Mn@Char\leftrsquigarrow       {MnSyA}{\mathrel}
431 \Decl@Mn@Char\downrsquigarrow       {MnSyA}{\mathrel}
432 \Decl@Mn@Char\nersquigarrow        {MnSyA}{\mathrel}
433 \Decl@Mn@Char\nwrsquigarrow        {MnSyA}{\mathrel}
434 \Decl@Mn@Char\swrsquigarrow        {MnSyA}{\mathrel}
435 \Decl@Mn@Char\sersquigarrow        {MnSyA}{\mathrel}
436 \Decl@Mn@Char\squigarrowleftright {MnSyA}{\mathrel}
437 \Decl@Mn@Alias\leftrightsquigarrow {MnSyA}{\mathrel}
438 \Decl@Mn@Char\squigarrowupdown    {MnSyA}{\mathrel}
439 \Decl@Mn@Char\squigarrowrightleft {MnSyA}{\mathrel}
440 \Decl@Mn@Char\squigarrowdownup    {MnSyA}{\mathrel}
441 \Decl@Mn@Char\squigarrownesw      {MnSyA}{\mathrel}
442 \Decl@Mn@Char\squigarrownwse       {MnSyA}{\mathrel}
443 \Decl@Mn@Char\squigarrowswne       {MnSyA}{\mathrel}
444 \Decl@Mn@Char\squigarrowsenw       {MnSyA}{\mathrel}
445 \Decl@Mn@Char\lcurvearrowright     {MnSyA}{\mathrel}
446 \Decl@Mn@Alias\curvearrowright      {MnSyA}{\mathrel}
447 \Decl@Mn@Char\lcurvearrowup        {MnSyA}{\mathrel}
448 \Decl@Mn@Char\lcurvearrowleft      {MnSyA}{\mathrel}
449 \Decl@Mn@Char\lcurvearrowdown      {MnSyA}{\mathrel}
450 \Decl@Mn@Char\lcurvearrowne        {MnSyA}{\mathrel}
451 \Decl@Mn@Char\lcurvearrownw       {MnSyA}{\mathrel}
452 \Decl@Mn@Char\lcurvearrowsw       {MnSyA}{\mathrel}
453 \Decl@Mn@Char\lcurvearrowse       {MnSyA}{\mathrel}
454 \Decl@Mn@Char\rcurvearrowright     {MnSyA}{\mathrel}
455 \Decl@Mn@Char\rcurvearrowup        {MnSyA}{\mathrel}
456 \Decl@Mn@Char\rcurvearrowleft      {MnSyA}{\mathrel}
457 \Decl@Mn@Alias\curvearrowleft      {MnSyA}{\mathrel}
458 \Decl@Mn@Char\rcurvearrowdown      {MnSyA}{\mathrel}
459 \Decl@Mn@Char\rcurvearrowne        {MnSyA}{\mathrel}
460 \Decl@Mn@Char\rcurvearrownw       {MnSyA}{\mathrel}
461 \Decl@Mn@Char\rcurvearrowsw       {MnSyA}{\mathrel}

```

```

462 \Decl@Mn@Char\rcurvearrowse {MnSyA}{\mathrel}
463 \Decl@Mn@Char\curvearrowleftright {MnSyA}{\mathrel}
464 \Decl@Mn@Char\curvearrowupdown {MnSyA}{\mathrel}
465 \Decl@Mn@Char\curvearrowrightleft {MnSyA}{\mathrel}
466 \Decl@Mn@Char\curvearrowdownup {MnSyA}{\mathrel}
467 \Decl@Mn@Char\curvearrownesw {MnSyA}{\mathrel}
468 \Decl@Mn@Char\curvearrownwse {MnSyA}{\mathrel}
469 \Decl@Mn@Char\curvearrowswne {MnSyA}{\mathrel}
470 \Decl@Mn@Char\curvearrowsenw {MnSyA}{\mathrel}
471 \Decl@Mn@Char\leftrightline {MnSyA}{\mathrel}
472 \Decl@Mn@Alias\relbar {MnSyA}{\mathrel}
473 \Decl@Mn@Char\updownline {MnSyA}{\mathrel}
474 \Decl@Mn@Alias\divides {MnSyA}{\mathrel}
475 \Decl@Mn@Char\neswline {MnSyA}{\mathrel}
476 \Decl@Mn@Alias\diagup {MnSyA}{\mathrel}
477 \Decl@Mn@Char\nwsepline {MnSyA}{\mathrel}
478 \Decl@Mn@Alias\diagdown {MnSyA}{\mathrel}
479 \Decl@Mn@Char\Leftrightline {MnSyA}{\mathrel}
480 \Decl@Mn@Alias\Relbar {MnSyA}{\mathrel}
481 \Decl@Mn@Char\Updownline {MnSyA}{\mathrel}
482 \Decl@Mn@Alias\parallel {MnSyA}{\mathrel}
483 \Decl@Mn@Char\Neswline {MnSyA}{\mathrel}
484 \Decl@Mn@Char\Nwsepline {MnSyA}{\mathrel}
485 \Decl@Mn@Char\rightvdash {MnSyA}{\mathrel}
486 \Decl@Mn@Alias\vdash {MnSyA}{\mathrel}
487 \Decl@Mn@Char\upvdash {MnSyA}{\mathrel}
488 \Decl@Mn@Alias\perp {MnSyA}{\mathrel}
489 \Decl@Mn@Char\leftvdash {MnSyA}{\mathrel}
490 \Decl@Mn@Alias\dashv {MnSyA}{\mathrel}
491 \Decl@Mn@Char\downvdash {MnSyA}{\mathrel}
492 \Decl@Mn@Char\nevdash {MnSyA}{\mathrel}
493 \Decl@Mn@Char\nwvdash {MnSyA}{\mathrel}
494 \Decl@Mn@Char\swvdash {MnSyA}{\mathrel}
495 \Decl@Mn@Char\sevdash {MnSyA}{\mathrel}
496 \Decl@Mn@Char\rightmodels {MnSyA}{\mathrel}
497 \Decl@Mn@Alias\models {MnSyA}{\mathrel}
498 \Decl@Mn@Alias\vDash {MnSyA}{\mathrel}
499 \Decl@Mn@Char\upmodels {MnSyA}{\mathrel}
500 \Decl@Mn@Char\leftmodels {MnSyA}{\mathrel}
501 \Decl@Mn@Char\downmodels {MnSyA}{\mathrel}
502 \Decl@Mn@Char\nmodels {MnSyA}{\mathrel}
503 \Decl@Mn@Char\nwmodels {MnSyA}{\mathrel}
504 \Decl@Mn@Char\swmodels {MnSyA}{\mathrel}
505 \Decl@Mn@Char\semodels {MnSyA}{\mathrel}
506 \Decl@Mn@Char\rightVdash {MnSyA}{\mathrel}
507 \Decl@Mn@Alias\Vdash {MnSyA}{\mathrel}
508 \Decl@Mn@Char\upVdash {MnSyA}{\mathrel}
509 \Decl@Mn@Char\leftVdash {MnSyA}{\mathrel}
510 \Decl@Mn@Char\downVdash {MnSyA}{\mathrel}
511 \Decl@Mn@Char\neVdash {MnSyA}{\mathrel}
512 \Decl@Mn@Char\nwVdash {MnSyA}{\mathrel}
513 \Decl@Mn@Char\swVdash {MnSyA}{\mathrel}
514 \Decl@Mn@Char\seVdash {MnSyA}{\mathrel}
515 \Decl@Mn@Char\rightModels {MnSyA}{\mathrel}

```

```

516 \Decl@Mn@Alias\VDash {MnSyA}{\mathrel}
517 \Decl@Mn@Char\upModels {MnSyA}{\mathrel}
518 \Decl@Mn@Char\leftModels {MnSyA}{\mathrel}
519 \Decl@Mn@Char\downModels {MnSyA}{\mathrel}
520 \Decl@Mn@Char\neModels {MnSyA}{\mathrel}
521 \Decl@Mn@Char\nwModels {MnSyA}{\mathrel}
522 \Decl@Mn@Char\swModels {MnSyA}{\mathrel}
523 \Decl@Mn@Char\seModels {MnSyA}{\mathrel}
524 \Decl@Mn@Char\rcirclearrowright {MnSyA}{\mathrel}
525 \Decl@Mn@Char\rcirclearrowup {MnSyA}{\mathrel}
526 \Decl@Mn@Alias\circlearrowleft {MnSyA}{\mathrel}
527 \Decl@Mn@Char\rcirclearrowleft {MnSyA}{\mathrel}
528 \Decl@Mn@Char\rcirclearrowdown {MnSyA}{\mathrel}
529 \Decl@Mn@Char\lcirclearrowright {MnSyA}{\mathrel}
530 \Decl@Mn@Char\lcirclearrowup {MnSyA}{\mathrel}
531 \Decl@Mn@Alias\circlearrowright {MnSyA}{\mathrel}
532 \Decl@Mn@Char\lcirclearrowleft {MnSyA}{\mathrel}
533 \Decl@Mn@Char\lcirclearrowdown {MnSyA}{\mathrel}
534
535 \let\joinrel\undefined
536 \DeclareRobustCommand\joinrel{\mathrel{\mkern-3.1mu}}
537 \DeclareRobustCommand\longrightarrow{\DOTSB\leftrightline\joinrel\rightarrow}
538 \DeclareRobustCommand\longleftarrow{\DOTSB\leftarrow\joinrel\leftrightline}
539 \DeclareRobustCommand\longleftrightarrow{\DOTSB\leftarrow\joinrel\rightarrow}
540 \DeclareRobustCommand\Longrightarrow{\DOTSB\Leftrightline\joinrel\rightarrow}
541 \DeclareRobustCommand\Longleftarrow{\DOTSB\Leftarrow\joinrel\Leftrightline}
542 \DeclareRobustCommand\Longleftrightarrow{\DOTSB\Leftarrow\joinrel\Rightarrow}
543 \DeclareRobustCommand\longmapsto{\DOTSB\leftfootline\joinrel\rightarrow}
544 \DeclareRobustCommand\emptyfilledspoon{\DOTSB\leftspoon\mkern-14mu\rightfilledspoon}
545 \DeclareRobustCommand\filledemptyspoon{\DOTSB\leftfilledspoon\mkern-14mu\rightspoon}
546 \DeclareRobustCommand\largeemptyfilledspoon{\DOTSB\mathrel{\circ}\mkern-8mu\relbar\mkern-8mu\bullet}
547 \DeclareRobustCommand\largefilledemptyspoon{\DOTSB\mathrel{\bullet}\mkern-8mu\relbar\mkern-8mu\circ}

MnSymbolB: stroked arrows.
548 \Set@Mn@Sym{0}
549 \Decl@Mn@Char\nrightarrow {MnSyB}{\mathrel}
550 \Decl@Mn@Alias\nto {MnSyB}{\mathrel}
551 \Decl@Mn@Char\nuparrow {MnSyB}{\mathrel}
552 \Decl@Mn@Char\nleftarrow {MnSyB}{\mathrel}
553 \Decl@Mn@Alias\ngots {MnSyB}{\mathrel}
554 \Decl@Mn@Char\ndownarrow {MnSyB}{\mathrel}
555 \Decl@Mn@Char\nnearrow {MnSyB}{\mathrel}
556 \Decl@Mn@Char\nnarrow {MnSyB}{\mathrel}
557 \Decl@Mn@Char\nswarrow {MnSyB}{\mathrel}
558 \Decl@Mn@Char\searrow {MnSyB}{\mathrel}
559 \Decl@Mn@Char\nRightarrow {MnSyB}{\mathrel}
560 \Decl@Mn@Char\nUparrow {MnSyB}{\mathrel}
561 \Decl@Mn@Char\nLeftarrow {MnSyB}{\mathrel}
562 \Decl@Mn@Char\nDownarrow {MnSyB}{\mathrel}
563 \Decl@Mn@Char\nNearrow {MnSyB}{\mathrel}
564 \Decl@Mn@Char\nNarrow {MnSyB}{\mathrel}
565 \Decl@Mn@Char\nSwarrow {MnSyB}{\mathrel}
566 \Decl@Mn@Char\nSearrow {MnSyB}{\mathrel}
567 \Decl@Mn@Char\nleftrightarrow {MnSyB}{\mathrel}
568 \Decl@Mn@Char\nupdownarrow {MnSyB}{\mathrel}

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569 \Decl@Mn@Char\nneswarrow           {MnSyB}{\mathrel}
570 \Decl@Mn@Char\nnwsearrow             {MnSyB}{\mathrel}
571 \Decl@Mn@Char\nLeftrightarrow       {MnSyB}{\mathrel}
572 \Decl@Mn@Char\nUpdownarrow          {MnSyB}{\mathrel}
573 \Decl@Mn@Char\nNeswarrow           {MnSyB}{\mathrel}
574 \Decl@Mn@Char\nNwsearrow            {MnSyB}{\mathrel}
575 \Decl@Mn@Char\ntwoheadrightarrow    {MnSyB}{\mathrel}
576 \Decl@Mn@Char\ntwoheaduparrow       {MnSyB}{\mathrel}
577 \Decl@Mn@Char\ntwoheadleftarrow     {MnSyB}{\mathrel}
578 \Decl@Mn@Char\ntwoheaddownarrow    {MnSyB}{\mathrel}
579 \Decl@Mn@Char\ntwoheadnearrow      {MnSyB}{\mathrel}
580 \Decl@Mn@Char\ntwoheadnarrow        {MnSyB}{\mathrel}
581 \Decl@Mn@Char\ntwoheadswarrow       {MnSyB}{\mathrel}
582 \Decl@Mn@Char\ntwoheadsearrow       {MnSyB}{\mathrel}
583 \Decl@Mn@Char\nrightarrowtail       {MnSyB}{\mathrel}
584 \Decl@Mn@Char\nuparrowtail          {MnSyB}{\mathrel}
585 \Decl@Mn@Char\nleftarrowtail         {MnSyB}{\mathrel}
586 \Decl@Mn@Char\ndownarrowtail        {MnSyB}{\mathrel}
587 \Decl@Mn@Char\nnearrowtail          {MnSyB}{\mathrel}
588 \Decl@Mn@Char\nnarrowtail           {MnSyB}{\mathrel}
589 \Decl@Mn@Char\nswarrowtail          {MnSyB}{\mathrel}
590 \Decl@Mn@Char\nsearrowtail           {MnSyB}{\mathrel}
591 \Decl@Mn@Char\nrightmapsto          {MnSyB}{\mathrel}
592 \Decl@Mn@Alias\nmapsto              {MnSyB}{\mathrel}
593 \Decl@Mn@Char\nupmapsto             {MnSyB}{\mathrel}
594 \Decl@Mn@Char\nleftmapsto            {MnSyB}{\mathrel}
595 \Decl@Mn@Char\ndownmapsto           {MnSyB}{\mathrel}
596 \Decl@Mn@Char\nnemapsto              {MnSyB}{\mathrel}
597 \Decl@Mn@Char\nnwmapsto              {MnSyB}{\mathrel}
598 \Decl@Mn@Char\nswmapsto              {MnSyB}{\mathrel}
599 \Decl@Mn@Char\nsemapsto              {MnSyB}{\mathrel}
600 \Decl@Mn@Char\lhookrightarrow        {MnSyB}{\mathrel}
601 \Decl@Mn@Alias\rhookrightarrow       {MnSyB}{\mathrel}
602 \Decl@Mn@Char\lhookuparrow           {MnSyB}{\mathrel}
603 \Decl@Mn@Char\lhookleftarrow         {MnSyB}{\mathrel}
604 \Decl@Mn@Char\lhookdownarrow        {MnSyB}{\mathrel}
605 \Decl@Mn@Char\lhooknearrow          {MnSyB}{\mathrel}
606 \Decl@Mn@Char\lhooknarrow            {MnSyB}{\mathrel}
607 \Decl@Mn@Char\lhookswarrow           {MnSyB}{\mathrel}
608 \Decl@Mn@Char\lhooksearrow           {MnSyB}{\mathrel}
609 \Decl@Mn@Char\nrhookrightarrow       {MnSyB}{\mathrel}
610 \Decl@Mn@Char\nrhookuparrow          {MnSyB}{\mathrel}
611 \Decl@Mn@Char\nrhookleftarrow        {MnSyB}{\mathrel}
612 \Decl@Mn@Alias\rhookleftarrow       {MnSyB}{\mathrel}
613 \Decl@Mn@Char\nrhookdownarrow       {MnSyB}{\mathrel}
614 \Decl@Mn@Char\nrhooknearrow         {MnSyB}{\mathrel}
615 \Decl@Mn@Char\nrhooknarrow           {MnSyB}{\mathrel}
616 \Decl@Mn@Char\lhookswarrow           {MnSyB}{\mathrel}
617 \Decl@Mn@Char\lhooksearrow           {MnSyB}{\mathrel}
618 \Decl@Mn@Char\nrightharpoonccw     {MnSyB}{\mathrel}
619 \Decl@Mn@Alias\nrightharpoonup       {MnSyB}{\mathrel}
620 \Decl@Mn@Char\nupharpoonccw          {MnSyB}{\mathrel}
621 \Decl@Mn@Alias\nupharpoonleft        {MnSyB}{\mathrel}
622 \Decl@Mn@Char\nleftharpoonccw        {MnSyB}{\mathrel}

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623 \Decl@Mn@Alias\nleftharpoondown {MnSyB}{\mathrel}
624 \Decl@Mn@Char\ndownharpoonccw {MnSyB}{\mathrel}
625 \Decl@Mn@Alias\ndownharpoonright {MnSyB}{\mathrel}
626 \Decl@Mn@Char\neharpoonccw {MnSyB}{\mathrel}
627 \Decl@Mn@Char\nnwharpoonccw {MnSyB}{\mathrel}
628 \Decl@Mn@Char\nswharpoonccw {MnSyB}{\mathrel}
629 \Decl@Mn@Char\seharpoonccw {MnSyB}{\mathrel}
630 \Decl@Mn@Char\nrightharpooncw {MnSyB}{\mathrel}
631 \Decl@Mn@Alias\nrightharpoondown {MnSyB}{\mathrel}
632 \Decl@Mn@Char\nupharpooncw {MnSyB}{\mathrel}
633 \Decl@Mn@Alias\upharpoonright {MnSyB}{\mathrel}
634 \Decl@Mn@Alias\nrestriction {MnSyB}{\mathrel}
635 \Decl@Mn@Char\leftharpooncw {MnSyB}{\mathrel}
636 \Decl@Mn@Alias\leftharpoonup {MnSyB}{\mathrel}
637 \Decl@Mn@Char\downharpooncw {MnSyB}{\mathrel}
638 \Decl@Mn@Alias\downharpoonleft {MnSyB}{\mathrel}
639 \Decl@Mn@Char\neharpooncw {MnSyB}{\mathrel}
640 \Decl@Mn@Char\nnwharpooncw {MnSyB}{\mathrel}
641 \Decl@Mn@Char\nswharpooncw {MnSyB}{\mathrel}
642 \Decl@Mn@Char\seharpooncw {MnSyB}{\mathrel}
643 \Decl@Mn@Char\leftrightharpoonupdown{MnSyB}{\mathrel}
644 \Decl@Mn@Char\updownharpoonleftright{MnSyB}{\mathrel}
645 \Decl@Mn@Char\neswharpoonnwse {MnSyB}{\mathrel}
646 \Decl@Mn@Char\nnwseharpoonnesw {MnSyB}{\mathrel}
647 \Decl@Mn@Char\leftrightharpoonupdownup{MnSyB}{\mathrel}
648 \Decl@Mn@Char\updownharpoonrightleft{MnSyB}{\mathrel}
649 \Decl@Mn@Char\neswharpoonsenw {MnSyB}{\mathrel}
650 \Decl@Mn@Char\nnwseharpoonsne {MnSyB}{\mathrel}
651 \Decl@Mn@Char\rightleftharpoons {MnSyB}{\mathrel}
652 \Decl@Mn@Char\updownharpoons {MnSyB}{\mathrel}
653 \Decl@Mn@Char\eneswharpoons {MnSyB}{\mathrel}
654 \Decl@Mn@Char\senwharpoons {MnSyB}{\mathrel}
655 \Decl@Mn@Char\leftrightharpoons {MnSyB}{\mathrel}
656 \Decl@Mn@Char\downupharpoons {MnSyB}{\mathrel}
657 \Decl@Mn@Char\swneharpoons {MnSyB}{\mathrel}
658 \Decl@Mn@Char\nnwseharpoons {MnSyB}{\mathrel}
659 \Decl@Mn@Char\ndashedrightarrow {MnSyB}{\mathrel}
660 \Decl@Mn@Alias\ndashrightarrow {MnSyB}{\mathrel}
661 \Decl@Mn@Alias\ndasharrow {MnSyB}{\mathrel}
662 \Decl@Mn@Char\ndasheduparrow {MnSyB}{\mathrel}
663 \Decl@Mn@Char\ndashedleftarrow {MnSyB}{\mathrel}
664 \Decl@Mn@Alias\ndashleftarrow {MnSyB}{\mathrel}
665 \Decl@Mn@Char\ndasheddownarrow {MnSyB}{\mathrel}
666 \Decl@Mn@Char\ndashednearrow {MnSyB}{\mathrel}
667 \Decl@Mn@Char\ndashednarrow {MnSyB}{\mathrel}
668 \Decl@Mn@Char\ndashedswarrow {MnSyB}{\mathrel}
669 \Decl@Mn@Char\ndashedsearrow {MnSyB}{\mathrel}
670 \Decl@Mn@Char\rightspoon {MnSyB}{\mathrel}
671 \Decl@Mn@Alias\multimap {MnSyB}{\mathrel}
672 \Decl@Mn@Char\upspoon {MnSyB}{\mathrel}
673 \Decl@Mn@Char\leftspoon {MnSyB}{\mathrel}
674 \Decl@Mn@Char\downspoon {MnSyB}{\mathrel}
675 \Decl@Mn@Char\espoon {MnSyB}{\mathrel}
676 \Decl@Mn@Char\newspoon {MnSyB}{\mathrel}

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677 \Decl@Mn@Char\nswspoon          {MnSyB}{\mathrel}
678 \Decl@Mn@Char\nsespoon           {MnSyB}{\mathrel}
679 \Decl@Mn@Char\nrightfilledspoon {MnSyB}{\mathrel}
680 \Decl@Mn@Char\nupfilledspoon   {MnSyB}{\mathrel}
681 \Decl@Mn@Char\nleftfilledspoon  {MnSyB}{\mathrel}
682 \Decl@Mn@Char\ndownfilledspoon {MnSyB}{\mathrel}
683 \Decl@Mn@Char\nnefilledspoon   {MnSyB}{\mathrel}
684 \Decl@Mn@Char\nnwfilledspoon   {MnSyB}{\mathrel}
685 \Decl@Mn@Char\nswfilledspoon   {MnSyB}{\mathrel}
686 \Decl@Mn@Char\NSEfilledspoon   {MnSyB}{\mathrel}
687 \Decl@Mn@Char\nrightfootline   {MnSyB}{\mathrel}
688 \Decl@Mn@Char\nupfootline      {MnSyB}{\mathrel}
689 \Decl@Mn@Char\nleftfootline    {MnSyB}{\mathrel}
690 \Decl@Mn@Char\ndownfootline   {MnSyB}{\mathrel}
691 \Decl@Mn@Char\nnefootline     {MnSyB}{\mathrel}
692 \Decl@Mn@Char\NNWfootline     {MnSyB}{\mathrel}
693 \Decl@Mn@Char\NSWfootline     {MnSyB}{\mathrel}
694 \Decl@Mn@Char\NSEfootline     {MnSyB}{\mathrel}
695 \Decl@Mn@Char\nrightfree      {MnSyB}{\mathrel}
696 \Decl@Mn@Char\nupfree         {MnSyB}{\mathrel}
697 \Decl@Mn@Char\nleftfree        {MnSyB}{\mathrel}
698 \Decl@Mn@Char\ndownfree       {MnSyB}{\mathrel}
699 \Decl@Mn@Char\nnefree         {MnSyB}{\mathrel}
700 \Decl@Mn@Char\NNWfree         {MnSyB}{\mathrel}
701 \Decl@Mn@Char\NSWfree         {MnSyB}{\mathrel}
702 \Decl@Mn@Char\NSEfree         {MnSyB}{\mathrel}
703 \Decl@Mn@Char\nrightpitchfork {MnSyB}{\mathrel}
704 \Decl@Mn@Char\nuppitchfork    {MnSyB}{\mathrel}
705 \Decl@Mn@Alias\npitchfork     {MnSyB}{\mathrel}
706 \Decl@Mn@Char\nleftpitchfork  {MnSyB}{\mathrel}
707 \Decl@Mn@Char\ndownpitchfork {MnSyB}{\mathrel}
708 \Decl@Mn@Char\NNEpitchfork   {MnSyB}{\mathrel}
709 \Decl@Mn@Char\NNWpitchfork   {MnSyB}{\mathrel}
710 \Decl@Mn@Char\NSWpitchfork   {MnSyB}{\mathrel}
711 \Decl@Mn@Char\NSEpitchfork   {MnSyB}{\mathrel}
712 \Decl@Mn@Char\nrightrightarrows{MnSyB}{\mathrel}
713 \Decl@Mn@Char\nupuparrows    {MnSyB}{\mathrel}
714 \Decl@Mn@Char\nleftleftarrows {MnSyB}{\mathrel}
715 \Decl@Mn@Char\ndowndownarrows{MnSyB}{\mathrel}
716 \Decl@Mn@Char\NNnearrows     {MnSyB}{\mathrel}
717 \Decl@Mn@Char\NNWnearrows    {MnSyB}{\mathrel}
718 \Decl@Mn@Char\NSWnearrows    {MnSyB}{\mathrel}
719 \Decl@Mn@Char\NSEnearrows    {MnSyB}{\mathrel}
720 \Decl@Mn@Char\nrightleftarrows{MnSyB}{\mathrel}
721 \Decl@Mn@Char\nupdownarrows  {MnSyB}{\mathrel}
722 \Decl@Mn@Char\NNeswarrows    {MnSyB}{\mathrel}
723 \Decl@Mn@Char\NNWsearrows    {MnSyB}{\mathrel}
724 \Decl@Mn@Char\NLEfrightarrows{MnSyB}{\mathrel}
725 \Decl@Mn@Char\ndownuparrows  {MnSyB}{\mathrel}
726 \Decl@Mn@Char\NSWnearrows    {MnSyB}{\mathrel}
727 \Decl@Mn@Char\NSenwarrows    {MnSyB}{\mathrel}
728 \Decl@Mn@Char\nrightlsquigarrown {MnSyB}{\mathrel}
729 \Decl@Mn@Alias\nleadsto      {MnSyB}{\mathrel}
730 \Decl@Mn@Alias\nrightsquigarrown {MnSyB}{\mathrel}

```

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731 \Decl@Mn@Char\nuplsquigarrow {MnSyB}{\mathrel}
732 \Decl@Mn@Char\nleftlsquigarrow {MnSyB}{\mathrel}
733 \Decl@Mn@Char\downlsquigarrow {MnSyB}{\mathrel}
734 \Decl@Mn@Char\nnelsquigarrow {MnSyB}{\mathrel}
735 \Decl@Mn@Char\nnwlsquigarrow {MnSyB}{\mathrel}
736 \Decl@Mn@Char\nswlsquigarrow {MnSyB}{\mathrel}
737 \Decl@Mn@Char\nselsquigarrow {MnSyB}{\mathrel}
738 \Decl@Mn@Char\nrightrsquigarrow {MnSyB}{\mathrel}
739 \Decl@Mn@Char\nuprsquigarrow {MnSyB}{\mathrel}
740 \Decl@Mn@Char\nleftrsquigarrow {MnSyB}{\mathrel}
741 \Decl@Mn@Char\ndownrsquigarrow {MnSyB}{\mathrel}
742 \Decl@Mn@Char\nnersquigarrow {MnSyB}{\mathrel}
743 \Decl@Mn@Char\nnwrsquigarrow {MnSyB}{\mathrel}
744 \Decl@Mn@Char\nswrsquigarrow {MnSyB}{\mathrel}
745 \Decl@Mn@Char\nsersquigarrow {MnSyB}{\mathrel}
746 \Decl@Mn@Char\nsquigarrowleftright {MnSyB}{\mathrel}
747 \Decl@Mn@Alias\nleftrightsquigarrow{MnSyB}{\mathrel}
748 \Decl@Mn@Char\nsquigarrowupdown {MnSyB}{\mathrel}
749 \Decl@Mn@Char\nsquigarrowrightleft {MnSyB}{\mathrel}
750 \Decl@Mn@Char\nsquigarrowdownup {MnSyB}{\mathrel}
751 \Decl@Mn@Char\nsquigarrownesw {MnSyB}{\mathrel}
752 \Decl@Mn@Char\nsquigarrownwse {MnSyB}{\mathrel}
753 \Decl@Mn@Char\nsquigarrowswne {MnSyB}{\mathrel}
754 \Decl@Mn@Char\nsquigarrowsenw {MnSyB}{\mathrel}
755 \Decl@Mn@Char\nlcurvearrowright {MnSyB}{\mathrel}
756 \Decl@Mn@Alias\ncurvearrowright {MnSyB}{\mathrel}
757 \Decl@Mn@Char\nlcurvearrowup {MnSyB}{\mathrel}
758 \Decl@Mn@Char\nlcurvearrowleft {MnSyB}{\mathrel}
759 \Decl@Mn@Char\nlcurvearrowdown {MnSyB}{\mathrel}
760 \Decl@Mn@Char\nlcurvearrowne {MnSyB}{\mathrel}
761 \Decl@Mn@Char\nlcurvearrownw {MnSyB}{\mathrel}
762 \Decl@Mn@Char\nlcurvearrowsw {MnSyB}{\mathrel}
763 \Decl@Mn@Char\nlcurvearrowse {MnSyB}{\mathrel}
764 \Decl@Mn@Char\ncurvearrowright {MnSyB}{\mathrel}
765 \Decl@Mn@Char\ncurvearrowup {MnSyB}{\mathrel}
766 \Decl@Mn@Char\ncurvearrowleft {MnSyB}{\mathrel}
767 \Decl@Mn@Alias\ncurvearrowleft {MnSyB}{\mathrel}
768 \Decl@Mn@Char\ncurvearrowdown {MnSyB}{\mathrel}
769 \Decl@Mn@Char\ncurvearrowne {MnSyB}{\mathrel}
770 \Decl@Mn@Char\ncurvearrownw {MnSyB}{\mathrel}
771 \Decl@Mn@Char\ncurvearrowsw {MnSyB}{\mathrel}
772 \Decl@Mn@Char\ncurvearrowse {MnSyB}{\mathrel}
773 \Decl@Mn@Char\ncurvearrowleftright {MnSyB}{\mathrel}
774 \Decl@Mn@Char\ncurvearrowupdown {MnSyB}{\mathrel}
775 \Decl@Mn@Char\ncurvearrowrightleft {MnSyB}{\mathrel}
776 \Decl@Mn@Char\ncurvearrowdownup {MnSyB}{\mathrel}
777 \Decl@Mn@Char\ncurvearrownesw {MnSyB}{\mathrel}
778 \Decl@Mn@Char\ncurvearrownwse {MnSyB}{\mathrel}
779 \Decl@Mn@Char\ncurvearrowswne {MnSyB}{\mathrel}
780 \Decl@Mn@Char\ncurvearrowsenw {MnSyB}{\mathrel}
781 \Decl@Mn@Char\nleftrightline {MnSyB}{\mathrel}
782 \Decl@Mn@Alias\nrelbar {MnSyB}{\mathrel}
783 \Decl@Mn@Char\updownline {MnSyB}{\mathrel}
784 \Decl@Mn@Alias\ndivides {MnSyB}{\mathrel}

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785 \Decl@Mn@Alias\nmid {MnSyB}{\mathrel}
786 \Decl@Mn@Char\nneswline {MnSyB}{\mathrel}
787 \Decl@Mn@Alias\ndiagup {MnSyB}{\mathrel}
788 \Decl@Mn@Char\nnwesline {MnSyB}{\mathrel}
789 \Decl@Mn@Alias\ndiagdown {MnSyB}{\mathrel}
790 \Decl@Mn@Char\nLeftrightline {MnSyB}{\mathrel}
791 \Decl@Mn@Alias\nRelbar {MnSyB}{\mathrel}
792 \Decl@Mn@Char\nUpdownline {MnSyB}{\mathrel}
793 \Decl@Mn@Alias\nparallel {MnSyB}{\mathrel}
794 \Decl@Mn@Char\nNeswline {MnSyB}{\mathrel}
795 \Decl@Mn@Char\nNwesline {MnSyB}{\mathrel}
796 \Decl@Mn@Char\nrightvdash {MnSyB}{\mathrel}
797 \Decl@Mn@Alias\nvdash {MnSyB}{\mathrel}
798 \Decl@Mn@Char\nupvdash {MnSyB}{\mathrel}
799 \Decl@Mn@Alias\nperp {MnSyB}{\mathrel}
800 \Decl@Mn@Char\nleftvdash {MnSyB}{\mathrel}
801 \Decl@Mn@Alias\ndashv {MnSyB}{\mathrel}
802 \Decl@Mn@Char\ndownvdash {MnSyB}{\mathrel}
803 \Decl@Mn@Char\nnevdash {MnSyB}{\mathrel}
804 \Decl@Mn@Char\nnwvdash {MnSyB}{\mathrel}
805 \Decl@Mn@Char\nswvdash {MnSyB}{\mathrel}
806 \Decl@Mn@Char\nsevdash {MnSyB}{\mathrel}
807 \Decl@Mn@Char\nrightmodels {MnSyB}{\mathrel}
808 \Decl@Mn@Alias\ncmodels {MnSyB}{\mathrel}
809 \Decl@Mn@Alias\ncDash {MnSyB}{\mathrel}
810 \Decl@Mn@Char\nupmodels {MnSyB}{\mathrel}
811 \Decl@Mn@Char\ncleftmodels {MnSyB}{\mathrel}
812 \Decl@Mn@Char\ncdownmodels {MnSyB}{\mathrel}
813 \Decl@Mn@Char\ncmodels {MnSyB}{\mathrel}
814 \Decl@Mn@Char\ncnwmodels {MnSyB}{\mathrel}
815 \Decl@Mn@Char\ncswmodels {MnSyB}{\mathrel}
816 \Decl@Mn@Char\ncsemodels {MnSyB}{\mathrel}
817 \Decl@Mn@Char\ncrightVdash {MnSyB}{\mathrel}
818 \Decl@Mn@Alias\ncVdash {MnSyB}{\mathrel}
819 \Decl@Mn@Char\ncupVdash {MnSyB}{\mathrel}
820 \Decl@Mn@Char\ncleftVdash {MnSyB}{\mathrel}
821 \Decl@Mn@Char\ncdownVdash {MnSyB}{\mathrel}
822 \Decl@Mn@Char\ncneVdash {MnSyB}{\mathrel}
823 \Decl@Mn@Char\ncnwVdash {MnSyB}{\mathrel}
824 \Decl@Mn@Char\ncswVdash {MnSyB}{\mathrel}
825 \Decl@Mn@Char\ncseVdash {MnSyB}{\mathrel}
826 \Decl@Mn@Char\ncrightModels {MnSyB}{\mathrel}
827 \Decl@Mn@Alias\ncDash {MnSyB}{\mathrel}
828 \Decl@Mn@Char\ncupModels {MnSyB}{\mathrel}
829 \Decl@Mn@Char\ncleftModels {MnSyB}{\mathrel}
830 \Decl@Mn@Char\ncdownModels {MnSyB}{\mathrel}
831 \Decl@Mn@Char\ncneModels {MnSyB}{\mathrel}
832 \Decl@Mn@Char\ncnwModels {MnSyB}{\mathrel}
833 \Decl@Mn@Char\ncswModels {MnSyB}{\mathrel}
834 \Decl@Mn@Char\ncseModels {MnSyB}{\mathrel}
835 \Decl@Mn@Char\ncrcleararrowright {MnSyB}{\mathrel}
836 \Decl@Mn@Char\ncrcleararrowup {MnSyB}{\mathrel}
837 \Decl@Mn@Alias\ncrcleararrowleft {MnSyB}{\mathrel}
838 \Decl@Mn@Char\ncrcleararrowleft {MnSyB}{\mathrel}

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839 \Decl@Mn@Char\nrcirclearrowdown      {MnSyB}{\mathrel}
840 \Decl@Mn@Char\nlccirclearrowright    {MnSyB}{\mathrel}
841 \Decl@Mn@Char\nlccirclearrowup       {MnSyB}{\mathrel}
842   \Decl@Mn@Alias\ncirclearrowright    {MnSyB}{\mathrel}
843 \Decl@Mn@Char\nlccirclearrowleft     {MnSyB}{\mathrel}
844 \Decl@Mn@Char\nlccirclearrowdown    {MnSyB}{\mathrel}

  MnSymbolC: operators.

845 \Set@Mn@Sym{0}
846 \Decl@Mn@Char\cdot          {MnSyC}{\mathbin}
847   \Decl@Mn@Alias\cdotp        {MnSyC}{\mathpunct}
848 \Decl@Mn@Char\hdotdot       {MnSyC}{\mathbin}
849 \Decl@Mn@Char\vdotdotdot    {MnSyC}{\mathbin}
850   \Decl@Mn@Alias\colon       {MnSyC}{\mathpunct}
851 \Decl@Mn@Char\udotdotdot    {MnSyC}{\mathbin}
852 \Decl@Mn@Char\ddotdotdot    {MnSyC}{\mathbin}
853 \Decl@Mn@Char\hdots         {MnSyC}{\mathord}
854   \Decl@Mn@Alias\@cdots     {MnSyC}{\mathinner}
855 % \DeclareRobustCommand{\@cdots}{\mathinner{\cdots}}
856   \let\cdots\@cdots
857 \Decl@Mn@Char\@vdots        {MnSyC}{\mathord}
858   \DeclareRobustCommand{\@vdots}{%
859     \ifmmode \@vdots \else \hbox{$\@vdots$}\fi}
860 \Decl@Mn@Char\udots          {MnSyC}{\mathord}
861 \Decl@Mn@Char\ddots          {MnSyC}{\mathord}
862 \Decl@Mn@Char\righttherefore {MnSyC}{\mathbin}
863 \Decl@Mn@Char\uptherefore    {MnSyC}{\mathbin}
864   \Decl@Mn@Alias\therefore    {MnSyC}{\mathbin}
865 \Decl@Mn@Char\lefttherefore  {MnSyC}{\mathbin}
866 \Decl@Mn@Char\downtherefore  {MnSyC}{\mathbin}
867   \Decl@Mn@Alias\because     {MnSyC}{\mathbin}
868 \Decl@Mn@Char\diamondddots  {MnSyC}{\mathbin}
869 \Decl@Mn@Char\squaredots     {MnSyC}{\mathbin}
870 \Decl@Mn@Char\fivedots      {MnSyC}{\mathbin}
871 \Decl@Mn@Char\minus          {MnSyC}{\mathbin}
872 \Decl@Mn@Char\medvert       {MnSyC}{\mathbin}
873   \Decl@Mn@Alias\shortmid    {MnSyC}{\mathrel}
874 \Decl@Mn@Char\medslash       {MnSyC}{\mathbin}
875 \Decl@Mn@Char\medbackslash   {MnSyC}{\mathbin}
876   \Decl@Mn@Alias\setminus     {MnSyC}{\mathbin}
877   \Decl@Mn@Alias\smallsetminus {MnSyC}{\mathbin}
878 \Decl@Mn@Char\plus           {MnSyC}{\mathbin}
879 \Decl@Mn@Char\times          {MnSyC}{\mathbin}
880 \Decl@Mn@Char\pm             {MnSyC}{\mathbin}
881 \Decl@Mn@Char\mp             {MnSyC}{\mathbin}
882 \Decl@Mn@Char\dotminus       {MnSyC}{\mathbin}
883 \Decl@Mn@Char\dotmedvert    {MnSyC}{\mathbin}
884 \Decl@Mn@Char\minusdot      {MnSyC}{\mathbin}
885 \Decl@Mn@Char\medvertdot    {MnSyC}{\mathbin}
886 \Decl@Mn@Char\div            {MnSyC}{\mathbin}
887 \Decl@Mn@Char\slashdiv       {MnSyC}{\mathbin}
888 \Decl@Mn@Char\vertdiv        {MnSyC}{\mathbin}
889 \Decl@Mn@Char\backslashslashdiv {MnSyC}{\mathbin}
890 \Decl@Mn@Char\neg             {MnSyC}{\mathord}
891   \Decl@Mn@Alias\lnot        {MnSyC}{\mathord}

```

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892 \Decl@Mn@Alias\minushookdown {MnSyC}{\mathbin}
893 \Decl@Mn@Char\backneg {MnSyC}{\mathord}
894 \Decl@Mn@Alias\hookdownminus {MnSyC}{\mathbin}
895 \Decl@Mn@Char\dtimes {MnSyC}{\mathbin}
896 \Decl@Mn@Char\rtimes {MnSyC}{\mathbin}
897 \Decl@Mn@Char\utimes {MnSyC}{\mathbin}
898 \Decl@Mn@Char\ltimes {MnSyC}{\mathbin}
899 \Decl@Mn@Char\bowtie {MnSyC}{\mathbin}
900 \Decl@Mn@Alias\Join {MnSyC}{\mathbin}
901 \Decl@Mn@Char\vertbowtie {MnSyC}{\mathbin}
902 \Decl@Mn@Char\rightY {MnSyC}{\mathbin}
903 \Decl@Mn@Char\upY {MnSyC}{\mathbin}
904 \Decl@Mn@Char\leftY {MnSyC}{\mathbin}
905 \Decl@Mn@Char\downY {MnSyC}{\mathbin}
906 \Decl@Mn@Char\wedge {MnSyC}{\mathbin}
907 \Decl@Mn@Alias\land {MnSyC}{\mathbin}
908 \Decl@Mn@Char\vee {MnSyC}{\mathbin}
909 \Decl@Mn@Alias\lor {MnSyC}{\mathbin}
910 \Decl@Mn@Char\wedgecdot {MnSyC}{\mathbin}
911 \Decl@Mn@Char\veedot {MnSyC}{\mathbin}
912 \Decl@Mn@Char\doublewedge {MnSyC}{\mathbin}
913 \Decl@Mn@Char\doublevee {MnSyC}{\mathbin}
914 \Decl@Mn@Char\curlywedge {MnSyC}{\mathbin}
915 \Decl@Mn@Char\curlyvee {MnSyC}{\mathbin}
916 \Decl@Mn@Char\curlywedgedot {MnSyC}{\mathbin}
917 \Decl@Mn@Char\curlyveedot {MnSyC}{\mathbin}
918 \Decl@Mn@Char\doublecurlywedge {MnSyC}{\mathbin}
919 \Decl@Mn@Char\doublecurlyvee {MnSyC}{\mathbin}
920 \Decl@Mn@Char\cup {MnSyC}{\mathbin}
921 \Decl@Mn@Char\cap {MnSyC}{\mathbin}
922 \Decl@Mn@Char\doublecup {MnSyC}{\mathbin}
923 \Decl@Mn@Alias\Cup {MnSyC}{\mathbin}
924 \Decl@Mn@Char\doublecap {MnSyC}{\mathbin}
925 \Decl@Mn@Alias\Cap {MnSyC}{\mathbin}
926 \Decl@Mn@Char\cupdot {MnSyC}{\mathbin}
927 \Decl@Mn@Char\capdot {MnSyC}{\mathbin}
928 \Decl@Mn@Char\cupplus {MnSyC}{\mathbin}
929 \Decl@Mn@Alias\uplus {MnSyC}{\mathbin}
930 \Decl@Mn@Char\capplus {MnSyC}{\mathbin}
931 \Decl@Mn@Char\sqcup {MnSyC}{\mathbin}
932 \Decl@Mn@Char\sqcap {MnSyC}{\mathbin}
933 \Decl@Mn@Char\doublesqcup {MnSyC}{\mathbin}
934 \Decl@Mn@Char\doublesqcap {MnSyC}{\mathbin}
935 \Decl@Mn@Char\sqcupdot {MnSyC}{\mathbin}
936 \Decl@Mn@Char\sqcapdot {MnSyC}{\mathbin}
937 \Decl@Mn@Char\sqcupplus {MnSyC}{\mathbin}
938 \Decl@Mn@Char\sqcapplus {MnSyC}{\mathbin}
939 \Decl@Mn@Char\smalltriangleright {MnSyC}{\mathbin}
940 \Decl@Mn@Char\smalltriangleup {MnSyC}{\mathbin}
941 \Decl@Mn@Char\smalltriangleleft {MnSyC}{\mathbin}
942 \Decl@Mn@Char\smalltriangledown {MnSyC}{\mathbin}
943 \Decl@Mn@Char\filledtriangleright {MnSyC}{\mathbin}
944 \Decl@Mn@Alias\blacktriangleright {MnSyC}{\mathbin}
945 \Decl@Mn@Char\filledtriangleup {MnSyC}{\mathbin}

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946 \Decl@Mn@Char\filledtriangleleft      {MnSyC}{\mathbin}
947   \Decl@Mn@Alias\blacktriangleleft     {MnSyC}{\mathbin}
948 \Decl@Mn@Char\filledtriangledown      {MnSyC}{\mathbin}
949 \Decl@Mn@Char\medtriangleright        {MnSyC}{\mathbin}
950   \Decl@Mn@Alias\triangleright         {MnSyC}{\mathbin}
951 \Decl@Mn@Char\medtriangleup           {MnSyC}{\mathbin}
952   \Decl@Mn@Alias\triangle            {MnSyC}{\mathbin}
953 \Decl@Mn@Alias\vartriangle          {MnSyC}{\mathbin}
954 \Decl@Mn@Alias\bigtriangleup         {MnSyC}{\mathbin}
955 \Decl@Mn@Char\medtriangleleft        {MnSyC}{\mathbin}
956 \Decl@Mn@Alias\triangleleft          {MnSyC}{\mathbin}
957 \Decl@Mn@Char\medtriangledown       {MnSyC}{\mathbin}
958 \Decl@Mn@Alias\bigtriangledown      {MnSyC}{\mathbin}
959 \Decl@Mn@Alias\triangledown         {MnSyC}{\mathbin}
960 \Decl@Mn@Char\largetriangleright    {MnSyC}{\mathord}
961 \Decl@Mn@Char\largetriangleup       {MnSyC}{\mathord}
962 \Decl@Mn@Char\largetriangleleft     {MnSyC}{\mathord}
963 \Decl@Mn@Char\largetriangledown    {MnSyC}{\mathord}
964 \Decl@Mn@Char\circ              {MnSyC}{\mathbin}
965 \Decl@Mn@Char\bullet             {MnSyC}{\mathbin}
966 \Decl@Mn@Char\medcircle          {MnSyC}{\mathbin}
967 \Decl@Mn@Char\largecircle         {MnSyC}{\mathord}
968 \Decl@Mn@Alias\bigcirc            {MnSyC}{\mathord}
969 \Decl@Mn@Char\ominus             {MnSyC}{\mathbin}
970 \Decl@Mn@Alias\circledash        {MnSyC}{\mathbin}
971 \Decl@Mn@Char\overt              {MnSyC}{\mathbin}
972 \Decl@Mn@Char\oslash             {MnSyC}{\mathbin}
973 \Decl@Mn@Char\obackslash        {MnSyC}{\mathbin}
974 \Decl@Mn@Char\oplus              {MnSyC}{\mathbin}
975 \Decl@Mn@Char\otimes             {MnSyC}{\mathbin}
976 \Decl@Mn@Char\odot              {MnSyC}{\mathbin}
977 \Decl@Mn@Char\ocirc             {MnSyC}{\mathbin}
978 \Decl@Mn@Alias\circledcirc      {MnSyC}{\mathbin}
979 \Decl@Mn@Char\otriangle         {MnSyC}{\mathbin}
980 \Decl@Mn@Char\oast              {MnSyC}{\mathbin}
981 \Decl@Mn@Alias\circledast        {MnSyC}{\mathbin}
982 \Decl@Mn@Char\ostar             {MnSyC}{\mathbin}
983 \Decl@Mn@Char\diameter          {MnSyC}{\mathord}
984 \Decl@Mn@Alias\emptyset          {MnSyC}{\mathord}
985 \Decl@Mn@Alias\varnothing        {MnSyC}{\mathord}
986 \Decl@Mn@Char\smallsquare       {MnSyC}{\mathbin}
987 \Decl@Mn@Char\filledsquare       {MnSyC}{\mathbin}
988 \Decl@Mn@Char\medsquare          {MnSyC}{\mathbin}
989 \Decl@Mn@Alias\square            {MnSyC}{\mathbin}
990 \Decl@Mn@Alias\Box               {MnSyC}{\mathbin}
991 \Decl@Mn@Char\large square       {MnSyC}{\mathord}
992 \Decl@Mn@Char\small diamond     {MnSyC}{\mathbin}
993 \Decl@Mn@Alias\diamond          {MnSyC}{\mathbin}
994 \Decl@Mn@Char\filleddiamond     {MnSyC}{\mathbin}
995 \Decl@Mn@Char\meddiamond        {MnSyC}{\mathbin}
996 \Decl@Mn@Alias\Diamond          {MnSyC}{\mathbin}
997 \Decl@Mn@Char\large diamond     {MnSyC}{\mathord}
998 \Decl@Mn@Char\boxminus          {MnSyC}{\mathbin}
999 \Decl@Mn@Char\boxvert           {MnSyC}{\mathbin}

```

```

1000 \Decl@Mn@Char\boxslash {MnSyC}{\mathbin}
1001 \Decl@Mn@Char\boxbackslash {MnSyC}{\mathbin}
1002 \Decl@Mn@Char\boxplus {MnSyC}{\mathbin}
1003 \Decl@Mn@Char\boxtimes {MnSyC}{\mathbin}
1004 \Decl@Mn@Char\boxdot {MnSyC}{\mathbin}
1005 \Decl@Mn@Char\boxbox {MnSyC}{\mathbin}
1006 \Decl@Mn@Char\diamondminus {MnSyC}{\mathbin}
1007 \Decl@Mn@Char\diamondvert {MnSyC}{\mathbin}
1008 \Decl@Mn@Char\diamondslash {MnSyC}{\mathbin}
1009 \Decl@Mn@Char\diamondbackslash {MnSyC}{\mathbin}
1010 \Decl@Mn@Char\diamondplus {MnSyC}{\mathbin}
1011 \Decl@Mn@Char\diamondtimes {MnSyC}{\mathbin}
1012 \Decl@Mn@Char\diamondddot {MnSyC}{\mathbin}
1013 \Decl@Mn@Char\diamondddiamond {MnSyC}{\mathbin}
1014 \Decl@Mn@Char\smallstar {MnSyC}{\mathbin}
1015 \Decl@Mn@Char\filledstar {MnSyC}{\mathbin}
1016 \Decl@Mn@Char\medstar {MnSyC}{\mathbin}
1017 \Decl@Mn@Char\largestar {MnSyC}{\mathord}
1018 \Decl@Mn@Char\pentagram {MnSyC}{\mathbin}
1019 \Decl@Mn@Char\largepentagram {MnSyC}{\mathord}
1020 \Decl@Mn@Char\thinstar {MnSyC}{\mathbin}
1021 \Decl@Mn@Alias\star {MnSyC}{\mathbin}
1022 \Decl@Mn@Char\ast {MnSyC}{\mathbin}
1023 \Decl@Mn@Char\hbipropto {MnSyC}{\mathbin}
1024 \Decl@Mn@Char\neswbipropto {MnSyC}{\mathbin}
1025 \Decl@Mn@Char\vbipropto {MnSyC}{\mathbin}
1026 \Decl@Mn@Char\nwsebipropto {MnSyC}{\mathbin}
1027 \Decl@Mn@Char\leftpropto {MnSyC}{\mathrel}
1028 \Decl@Mn@Alias\proto {MnSyC}{\mathrel}
1029 \Decl@Mn@Alias\varproto {MnSyC}{\mathrel}
1030 \Decl@Mn@Char\downproto {MnSyC}{\mathrel}
1031 \Decl@Mn@Char\rightproto {MnSyC}{\mathrel}
1032 \Decl@Mn@Char\upproto {MnSyC}{\mathrel}
1033 \Decl@Mn@Char\hcrossing {MnSyC}{\mathrel}
1034 \Decl@Mn@Char\neswcrossing {MnSyC}{\mathrel}
1035 \Decl@Mn@Char\vcrossing {MnSyC}{\mathrel}
1036 \Decl@Mn@Char\nwsecrossing {MnSyC}{\mathrel}
1037 \Decl@Mn@Char\between {MnSyC}{\mathrel}
1038 \Decl@Mn@Char\separated {MnSyC}{\mathrel}
1039 \Decl@Mn@Char\bot {MnSyC}{\mathord}
1040 \Decl@Mn@Char\top {MnSyC}{\mathord}
1041 \Decl@Mn@Alias\intercal {MnSyC}{\mathbin}
1042 \Decl@Mn@Char\wreath {MnSyC}{\mathbin}
1043 \Decl@Mn@Alias\wr {MnSyC}{\mathbin}
1044 \Decl@Mn@Char\angle {MnSyC}{\mathord}
1045 \Decl@Mn@Char\measuredangle {MnSyC}{\mathord}
1046 \Decl@Mn@Char\sphericalangle {MnSyC}{\mathord}
1047 \Decl@Mn@Char\prime {MnSyC}{\mathord}
1048 \Decl@Mn@Char\backprime {MnSyC}{\mathord}
1049 \Decl@Mn@Char\smallprod {MnSyC}{\mathbin}
1050 \Decl@Mn@Char\amalg {MnSyC}{\mathbin}
1051 \Decl@Mn@Char\checkmark {MnSyC}{\mathord}
1052 \Decl@Mn@Char\lightning {MnSyC}{\mathord}
1053 \Decl@Mn@Char\diamondsuit {MnSyC}{\mathord}

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1054 \Decl@Mn@Char\heartsuit           {MnSyC}{\mathord}
1055 \Decl@Mn@Char\spadesuit           {MnSyC}{\mathord}
1056 \Decl@Mn@Char\clubsuit            {MnSyC}{\mathord}
1057 \Decl@Mn@Char\forall               {MnSyC}{\mathord}
1058 \Decl@Mn@Char\exists               {MnSyC}{\mathord}
1059 \Decl@Mn@Char\nexists              {MnSyC}{\mathord}
1060 \Decl@Mn@Char\nabla               {MnSyC}{\mathord}
1061 \Decl@Mn@Char\infty              {MnSyC}{\mathord}
1062 \Decl@Mn@Char\smallint             {MnSyC}{\mathop}
1063 \Decl@Mn@Char\flat                {MnSyC}{\mathop}
1064 \Decl@Mn@Char\natural              {MnSyC}{\mathop}
1065 \Decl@Mn@Char\sharp                {MnSyC}{\mathop}
1066 \Decl@Mn@Char\aleph                {MnSyC}{\mathord}
1067 \Decl@Mn@Char\beth                {MnSyC}{\mathord}
1068 \Decl@Mn@Char\gimel                {MnSyC}{\mathord}
1069 \Decl@Mn@Char\daleth                {MnSyC}{\mathord}
1070 \Decl@Mn@Char\wp                  {MnSyC}{\mathord}
1071 \Decl@Mn@Char\powerset              {MnSyC}{\mathord}
1072 \Decl@Mn@Char\invneg                {MnSyC}{\mathord}
1073 \Decl@Mn@Alias\minushookup          {MnSyC}{\mathbin}
1074 \Decl@Mn@Char\invbackneg             {MnSyC}{\mathord}
1075 \Decl@Mn@Alias\hookupminus           {MnSyC}{\mathbin}
1076 \Decl@Mn@Char\lefthalfcup           {MnSyC}{\mathbin}
1077 \Decl@Mn@Char\righthalfcup           {MnSyC}{\mathbin}
1078 \Decl@Mn@Char\lefthalfcap             {MnSyC}{\mathbin}
1079 \Decl@Mn@Char\righthalfcap             {MnSyC}{\mathbin}
1080 \Decl@Mn@Char\closedsucc              {MnSyC}{\mathrel}
1081 \Decl@Mn@Char\closedcurlywedge          {MnSyC}{\mathbin}
1082 \Decl@Mn@Char\closedprec              {MnSyC}{\mathrel}
1083 \Decl@Mn@Char\closedcurlyvee             {MnSyC}{\mathbin}
1084 \Decl@Mn@Char\rightslice              {MnSyC}{\mathrel}
1085 \Decl@Mn@Char\upslice                {MnSyC}{\mathbin}
1086 \Decl@Mn@Char\leftslice               {MnSyC}{\mathrel}
1087 \Decl@Mn@Char\downslice               {MnSyC}{\mathbin}
1088 \Decl@Mn@Char\smallozenga              {MnSyC}{\mathord}
1089 \Decl@Mn@Char\filledlozenge             {MnSyC}{\mathord}
1090 \Decl@Mn@Char\medlozenge               {MnSyC}{\mathord}
1091 \Decl@Mn@Alias\lozenge                {MnSyC}{\mathord}
1092 \Decl@Mn@Char\filledmedlozenge          {MnSyC}{\mathord}
1093 \Decl@Mn@Alias\blacklozenge             {MnSyC}{\mathord}
1094 \Decl@Mn@Char\large lozenge              {MnSyC}{\mathord}
1095 \Decl@Mn@Char\filledmedtriangleright {MnSyC}{\mathbin}
1096 \Decl@Mn@Char\filledmedtriangleup           {MnSyC}{\mathbin}
1097 \Decl@Mn@Alias\blacktriangle             {MnSyC}{\mathbin}
1098 \Decl@Mn@Char\filledmedtriangleleft          {MnSyC}{\mathbin}
1099 \Decl@Mn@Char\filledmedtriangledown          {MnSyC}{\mathbin}
1100 \Decl@Mn@Alias\blacktriangledown           {MnSyC}{\mathbin}
1101 \Decl@Mn@Char\filledmedsquare             {MnSyC}{\mathbin}
1102 \Decl@Mn@Alias\blacksquare               {MnSyC}{\mathbin}
1103 \Decl@Mn@Char\filledlargestar             {MnSyC}{\mathord}
1104 \Decl@Mn@Alias\bigstar                  {MnSyC}{\mathord}
1105 \Decl@Mn@Char\medstarofdavid             {MnSyC}{\mathord}
1106 \Decl@Mn@Char\largestarofdavid             {MnSyC}{\mathord}
1107 \Decl@Mn@Char\maltese                  {MnSyC}{\mathord}

```

```

1108 \Set@Mn@Sym{220}
1109 \Decl@Mn@Char\closedeql {MnSyC}{\mathrel}
1110 \Decl@Mn@Char\equalclosed {MnSyC}{\mathrel}
1111 \Decl@Mn@Char\equivclosed {MnSyC}{\mathrel}
1112 \Decl@Mn@Char\lessim {MnSyC}{\mathrel}
1113 \Decl@Mn@Char\gtrsim {MnSyC}{\mathrel}
1114 \Decl@Mn@Char\lessapprox {MnSyC}{\mathrel}
1115 \Decl@Mn@Char\gtrapprox {MnSyC}{\mathrel}
1116 \Decl@Mn@Char\eqslantless {MnSyC}{\mathrel}
1117 \Decl@Mn@Char\eqslantgtr {MnSyC}{\mathrel}
1118 \Decl@Mn@Char\curlyeqprec {MnSyC}{\mathrel}
1119 \Decl@Mn@Char\curlyeqsucc {MnSyC}{\mathrel}
1120 \Decl@Mn@Char\Rrightarrow {MnSyC}{\mathrel}
1121 \Decl@Mn@Char\Lleftarrow {MnSyC}{\mathrel}
1122 \Decl@Mn@Char\nclosedeql {MnSyC}{\mathrel}
1123 \Decl@Mn@Char\nequalclosed {MnSyC}{\mathrel}
1124 \Decl@Mn@Char\nequivclosed {MnSyC}{\mathrel}
1125 \Decl@Mn@Char\lnsim {MnSyC}{\mathrel}
1126 \Decl@Mn@Char\gnsim {MnSyC}{\mathrel}
1127 \Decl@Mn@Char\lnapprox {MnSyC}{\mathrel}
1128 \Decl@Mn@Char\gnapprox {MnSyC}{\mathrel}
1129 \Decl@Mn@Char\neqslantless {MnSyC}{\mathrel}
1130 \Decl@Mn@Char\neqslantgtr {MnSyC}{\mathrel}
1131 \Decl@Mn@Char\ncurlyeqprec {MnSyC}{\mathrel}
1132 \Decl@Mn@Char\ncurlyeqsucc {MnSyC}{\mathrel}
1133 \Decl@Mn@Char\nRrightarrow {MnSyC}{\mathrel}
1134 \Decl@Mn@Char\nLleftarrow {MnSyC}{\mathrel}
1135 \Decl@Mn@Char\Rsh {MnSyC}{\mathrel}
1136 \Decl@Mn@Char\Lsh {MnSyC}{\mathrel}
1137 \Decl@Mn@Char\looparrowright {MnSyC}{\mathrel}
1138 \Decl@Mn@Char\looparrowleft {MnSyC}{\mathrel}
1139 \Decl@Mn@Char\leftthreetimes {MnSyC}{\mathbin}
1140 \Decl@Mn@Char\rightthreetimes {MnSyC}{\mathbin}
1141 \Decl@Mn@Char\Vvdash {MnSyC}{\mathrel}
1142 \Decl@Mn@Char\nshortmid {MnSyC}{\mathrel}
1143 \Decl@Mn@Char\shortparallel {MnSyC}{\mathrel}
1144 \Decl@Mn@Char\nshortparallel {MnSyC}{\mathrel}

```

#### MnSymbolD: Relations.

```

1145 \Set@Mn@Sym{0}
1146 \Decl@Mn@Char\equal {MnSyD}{\mathrel}
1147 \Decl@Mn@Char\equiv {MnSyD}{\mathrel}
1148 \Decl@Mn@Char\sim {MnSyD}{\mathrel}
1149 \Decl@Mn@Char\backsim {MnSyD}{\mathrel}
1150 \Decl@Mn@Char\approx {MnSyD}{\mathrel}
1151 \Decl@Mn@Char\backapprox {MnSyD}{\mathrel}
1152 \Decl@Mn@Char\triplesim {MnSyD}{\mathrel}
1153 \Decl@Mn@Char\backtriplesim {MnSyD}{\mathrel}
1154 \Decl@Mn@Char\simeq {MnSyD}{\mathrel}
1155 \Decl@Mn@Char\backsimeq {MnSyD}{\mathrel}
1156 \Decl@Mn@Char\eqsim {MnSyD}{\mathrel}
1157 \Decl@Mn@Char\backeqsim {MnSyD}{\mathrel}
1158 \Decl@Mn@Char\cong {MnSyD}{\mathrel}
1159 \Decl@Mn@Char\backcong {MnSyD}{\mathrel}
1160 \Decl@Mn@Char\approxeq {MnSyD}{\mathrel}

```

```

1161 \Decl@Mn@Char\backapproxeq {MnSyD}{\mathrel}
1162 \Decl@Mn@Char\bumpeq {MnSyD}{\mathrel}
1163 \Decl@Mn@Char\eqbump {MnSyD}{\mathrel}
1164 \Decl@Mn@Char\BumpEq {MnSyD}{\mathrel}
1165 \Decl@Mn@Char\doteq {MnSyD}{\mathrel}
1166 \Decl@Mn@Char\eqdot {MnSyD}{\mathrel}
1167 \Decl@Mn@Char\DotEq {MnSyD}{\mathrel}
1168 \Decl@Mn@Alias\doteqdot {MnSyD}{\mathbin}
1169 \Decl@Mn@Char\fallingdotseq {MnSyD}{\mathrel}
1170 \Decl@Mn@Char\risingdotseq {MnSyD}{\mathrel}
1171 \Decl@Mn@Char\smile {MnSyD}{\mathrel}
1172 \Decl@Mn@Alias\smallsmile {MnSyD}{\mathrel}
1173 \Decl@Mn@Char\frown {MnSyD}{\mathrel}
1174 \Decl@Mn@Alias\smallfrown {MnSyD}{\mathrel}
1175 \Decl@Mn@Char\doublesmile {MnSyD}{\mathrel}
1176 \Decl@Mn@Char\doublefrown {MnSyD}{\mathrel}
1177 \Decl@Mn@Char\triplesmile {MnSyD}{\mathrel}
1178 \Decl@Mn@Char\triplefrown {MnSyD}{\mathrel}
1179 \Decl@Mn@Char\smilefrown {MnSyD}{\mathrel}
1180 \Decl@Mn@Alias\asymptotic {MnSyD}{\mathrel}
1181 \Decl@Mn@Char\frownsmile {MnSyD}{\mathrel}
1182 \Decl@Mn@Char\smileeq {MnSyD}{\mathrel}
1183 \Decl@Mn@Char\frowneq {MnSyD}{\mathrel}
1184 \Decl@Mn@Char\eqsmile {MnSyD}{\mathrel}
1185 \Decl@Mn@Char\eqfrown {MnSyD}{\mathrel}
1186 \Decl@Mn@Char\doublesmileeq {MnSyD}{\mathrel}
1187 \Decl@Mn@Char\doublefrownneq {MnSyD}{\mathrel}
1188 \Decl@Mn@Char\smileeqfrown {MnSyD}{\mathrel}
1189 \Decl@Mn@Char\frowneqsmile {MnSyD}{\mathrel}
1190 \Decl@Mn@Char\smilefrownneq {MnSyD}{\mathrel}
1191 \Decl@Mn@Char\frownsmileeq {MnSyD}{\mathrel}
1192 \Decl@Mn@Char\sqsmile {MnSyD}{\mathrel}
1193 \Decl@Mn@Char\sqfrown {MnSyD}{\mathrel}
1194 \Decl@Mn@Char\sqdoublesmile {MnSyD}{\mathrel}
1195 \Decl@Mn@Char\sqdoublefrown {MnSyD}{\mathrel}
1196 \Decl@Mn@Char\sqtriplesmile {MnSyD}{\mathrel}
1197 \Decl@Mn@Char\sqtriplefrown {MnSyD}{\mathrel}
1198 \Decl@Mn@Char\sqsmilefrown {MnSyD}{\mathrel}
1199 \Decl@Mn@Char\sqfrownsmile {MnSyD}{\mathrel}
1200 \Decl@Mn@Char\sqsmileeq {MnSyD}{\mathrel}
1201 \Decl@Mn@Char\sqfrowneq {MnSyD}{\mathrel}
1202 \Decl@Mn@Char\sqeqlsmile {MnSyD}{\mathrel}
1203 \Decl@Mn@Char\sqeqfrown {MnSyD}{\mathrel}
1204 \Decl@Mn@Char\sqdoublesmileeq {MnSyD}{\mathrel}
1205 \Decl@Mn@Char\sqdoublefrownneq {MnSyD}{\mathrel}
1206 \Decl@Mn@Char\sqsmileeqfrown {MnSyD}{\mathrel}
1207 \Decl@Mn@Char\sqfrowneqsmile {MnSyD}{\mathrel}
1208 \Decl@Mn@Char\eqcirc {MnSyD}{\mathrel}
1209 \Decl@Mn@Char\circeq {MnSyD}{\mathrel}
1210 \Decl@Mn@Char\triangleeq {MnSyD}{\mathrel}
1211 \Decl@Mn@Alias\triangleq {MnSyD}{\mathrel}
1212 \Decl@Mn@Char\hateq {MnSyD}{\mathrel}
1213 \Decl@Mn@Char\in {MnSyD}{\mathrel}
1214 \Decl@Mn@Char\owns {MnSyD}{\mathrel}

```

```

1215 \Decl@Mn@Alias\ni {MnSyD}{\mathrel}
1216 \Decl@Mn@Char\less {MnSyD}{\mathrel}
1217 \Decl@Mn@Char\gtr {MnSyD}{\mathrel}
1218 \Decl@Mn@Char\leq {MnSyD}{\mathrel}
1219 \Decl@Mn@Alias\leq {MnSyD}{\mathrel}
1220 \Decl@Mn@Char\geq {MnSyD}{\mathrel}
1221 \Decl@Mn@Alias\geq {MnSyD}{\mathrel}
1222 \Decl@Mn@Char\leqslant {MnSyD}{\mathrel}
1223 \Decl@Mn@Char\geqslant {MnSyD}{\mathrel}
1224 \Decl@Mn@Char\leqq {MnSyD}{\mathrel}
1225 \Decl@Mn@Char\geqq {MnSyD}{\mathrel}
1226 \Decl@Mn@Char\lessgtr {MnSyD}{\mathrel}
1227 \Decl@Mn@Char\gtrless {MnSyD}{\mathrel}
1228 \Decl@Mn@Char\lesseqgtr {MnSyD}{\mathrel}
1229 \Decl@Mn@Char\gtreqless {MnSyD}{\mathrel}
1230 \Decl@Mn@Char\lesseqgtr {MnSyD}{\mathrel}
1231 \Decl@Mn@Char\gtreqless {MnSyD}{\mathrel}
1232 \Decl@Mn@Char\lesseqtrslant {MnSyD}{\mathrel}
1233 \Decl@Mn@Char\gtreqlesslant {MnSyD}{\mathrel}
1234 \Decl@Mn@Char\lll {MnSyD}{\mathrel}
1235 \Decl@Mn@Char\gg {MnSyD}{\mathrel}
1236 \Decl@Mn@Char\lll {MnSyD}{\mathrel}
1237 \Decl@Mn@Alias\llless {MnSyD}{\mathrel}
1238 \Decl@Mn@Char\ggg {MnSyD}{\mathrel}
1239 \Decl@Mn@Alias\gggtr {MnSyD}{\mathrel}
1240 \Decl@Mn@Char\lessclosed {MnSyD}{\mathrel}
1241 \Decl@Mn@Alias\lhd {MnSyD}{\mathrel}
1242 \Decl@Mn@Alias\vartriangleleft {MnSyD}{\mathrel}
1243 \Decl@Mn@Char\gtrclosed {MnSyD}{\mathrel}
1244 \Decl@Mn@Alias\rhd {MnSyD}{\mathrel}
1245 \Decl@Mn@Alias\vartriangleright {MnSyD}{\mathrel}
1246 \Decl@Mn@Char\leqclosed {MnSyD}{\mathrel}
1247 \Decl@Mn@Alias\unlhd {MnSyD}{\mathrel}
1248 \Decl@Mn@Alias\trianglelefteq {MnSyD}{\mathrel}
1249 \Decl@Mn@Char\geqclosed {MnSyD}{\mathrel}
1250 \Decl@Mn@Alias\unrhd {MnSyD}{\mathrel}
1251 \Decl@Mn@Alias\trianglerighteq {MnSyD}{\mathrel}
1252 \Decl@Mn@Char\sqsubset {MnSyD}{\mathrel}
1253 \Decl@Mn@Char\sqsupset {MnSyD}{\mathrel}
1254 \Decl@Mn@Char\sqsubseteq {MnSyD}{\mathrel}
1255 \Decl@Mn@Char\sqsupseteq {MnSyD}{\mathrel}
1256 \Decl@Mn@Char\sqsubseteqq {MnSyD}{\mathrel}
1257 \Decl@Mn@Char\sqsupseteqq {MnSyD}{\mathrel}
1258 \Decl@Mn@Char\Sqsubset {MnSyD}{\mathrel}
1259 \Decl@Mn@Char\Sqsupset {MnSyD}{\mathrel}
1260 \Decl@Mn@Char\subset {MnSyD}{\mathrel}
1261 \Decl@Mn@Char\supset {MnSyD}{\mathrel}
1262 \Decl@Mn@Char\subsetseteq {MnSyD}{\mathrel}
1263 \Decl@Mn@Char\supseteq {MnSyD}{\mathrel}
1264 \Decl@Mn@Char\subsetseteqq {MnSyD}{\mathrel}
1265 \Decl@Mn@Char\supseteqq {MnSyD}{\mathrel}
1266 \Decl@Mn@Char\Subset {MnSyD}{\mathrel}
1267 \Decl@Mn@Char\Supset {MnSyD}{\mathrel}
1268 \Decl@Mn@Char\prec {MnSyD}{\mathrel}

```

```

1269 \Decl@Mn@Char\succ {MnSyD}{\mathrel}
1270 \Decl@Mn@Char\preceq {MnSyD}{\mathrel}
1271 \Decl@Mn@Char\succeq {MnSyD}{\mathrel}
1272 \Decl@Mn@Char\preccurlyeq {MnSyD}{\mathrel}
1273 \Decl@Mn@Char\succurlyeq {MnSyD}{\mathrel}
1274 \Decl@Mn@Char\precsim {MnSyD}{\mathrel}
1275 \Decl@Mn@Char\succsim {MnSyD}{\mathrel}
1276 \Decl@Mn@Char\precapprox {MnSyD}{\mathrel}
1277 \Decl@Mn@Char\succapprox {MnSyD}{\mathrel}
1278 \Decl@Mn@Char\lessdot {MnSyD}{\mathrel}
1279 \Decl@Mn@Char\gtrdot {MnSyD}{\mathrel}
1280 \Decl@Mn@Char\leqdot {MnSyD}{\mathrel}
1281 \Decl@Mn@Char\geqdot {MnSyD}{\mathrel}
1282 \Decl@Mn@Char\leqslantdot {MnSyD}{\mathrel}
1283 \Decl@Mn@Char\geqslantdot {MnSyD}{\mathrel}
1284 \Decl@Mn@Char\negual {MnSyD}{\mathrel}
1285 \Decl@Mn@Alias\neq {MnSyD}{\mathrel}
1286 \Decl@Mn@Alias\ne {MnSyD}{\mathrel}
1287 \Decl@Mn@Char\nequiv {MnSyD}{\mathrel}
1288 \Decl@Mn@Char\nsim {MnSyD}{\mathrel}
1289 \Decl@Mn@Char\nbacksim {MnSyD}{\mathrel}
1290 \Decl@Mn@Char\napprox {MnSyD}{\mathrel}
1291 \Decl@Mn@Char\nbackapprox {MnSyD}{\mathrel}
1292 \Decl@Mn@Char\ntriplesim {MnSyD}{\mathrel}
1293 \Decl@Mn@Char\nbacktriplesim {MnSyD}{\mathrel}
1294 \Decl@Mn@Char\nsimeq {MnSyD}{\mathrel}
1295 \Decl@Mn@Char\nbacksimeq {MnSyD}{\mathrel}
1296 \Decl@Mn@Char\neqsim {MnSyD}{\mathrel}
1297 \Decl@Mn@Char\nbackeqsim {MnSyD}{\mathrel}
1298 \Decl@Mn@Char\ncong {MnSyD}{\mathrel}
1299 \Decl@Mn@Char\nbackcong {MnSyD}{\mathrel}
1300 \Decl@Mn@Char\napproxeq {MnSyD}{\mathrel}
1301 \Decl@Mn@Char\nbackapproxeq {MnSyD}{\mathrel}
1302 \Decl@Mn@Char\nbump {MnSyD}{\mathrel}
1303 \Decl@Mn@Char\neqbump {MnSyD}{\mathrel}
1304 \Decl@Mn@Char\nBump {MnSyD}{\mathrel}
1305 \Decl@Mn@Char\ndoteq {MnSyD}{\mathrel}
1306 \Decl@Mn@Char\neqdot {MnSyD}{\mathrel}
1307 \Decl@Mn@Char\nDoteq {MnSyD}{\mathrel}
1308 \Decl@Mn@Char\nfallingdotseq {MnSyD}{\mathrel}
1309 \Decl@Mn@Char\nrisingdotseq {MnSyD}{\mathrel}
1310 \Decl@Mn@Char\nsmile {MnSyD}{\mathrel}
1311 \Decl@Mn@Char\nfrown {MnSyD}{\mathrel}
1312 \Decl@Mn@Char\ndoublesmile {MnSyD}{\mathrel}
1313 \Decl@Mn@Char\ndoublefrown {MnSyD}{\mathrel}
1314 \Decl@Mn@Char\ntriplesmile {MnSyD}{\mathrel}
1315 \Decl@Mn@Char\ntriplefrown {MnSyD}{\mathrel}
1316 \Decl@Mn@Char\nsmilefrown {MnSyD}{\mathrel}
1317 \Decl@Mn@Alias\nasymp {MnSyD}{\mathrel}
1318 \Decl@Mn@Char\nfrownsmile {MnSyD}{\mathrel}
1319 \Decl@Mn@Char\nsmileeq {MnSyD}{\mathrel}
1320 \Decl@Mn@Char\nfrownneq {MnSyD}{\mathrel}
1321 \Decl@Mn@Char\neqsmile {MnSyD}{\mathrel}
1322 \Decl@Mn@Char\neqfrown {MnSyD}{\mathrel}

```

```

1323 \Decl@Mn@Char\ndoublesmileeq {MnSyD}{\mathrel}
1324 \Decl@Mn@Char\ndoublefrownneq {MnSyD}{\mathrel}
1325 \Decl@Mn@Char\nsmileeqfrown {MnSyD}{\mathrel}
1326 \Decl@Mn@Char\nfrowneqsmile {MnSyD}{\mathrel}
1327 \Decl@Mn@Char\nsmilefrownneq {MnSyD}{\mathrel}
1328 \Decl@Mn@Char\nfrownsmileeq {MnSyD}{\mathrel}
1329 \Decl@Mn@Char\nsqsmile {MnSyD}{\mathrel}
1330 \Decl@Mn@Char\nsqfrown {MnSyD}{\mathrel}
1331 \Decl@Mn@Char\nsqdoublesmile {MnSyD}{\mathrel}
1332 \Decl@Mn@Char\nsqdoublfrown {MnSyD}{\mathrel}
1333 \Decl@Mn@Char\nsqtriplesmile {MnSyD}{\mathrel}
1334 \Decl@Mn@Char\nsqtriplefrown {MnSyD}{\mathrel}
1335 \Decl@Mn@Char\nsqsmilefrown {MnSyD}{\mathrel}
1336 \Decl@Mn@Char\nsqfrownsmile {MnSyD}{\mathrel}
1337 \Decl@Mn@Char\nsqsmileeq {MnSyD}{\mathrel}
1338 \Decl@Mn@Char\nsqfrownneq {MnSyD}{\mathrel}
1339 \Decl@Mn@Char\nsqeqlsmile {MnSyD}{\mathrel}
1340 \Decl@Mn@Char\nsqeqlfrown {MnSyD}{\mathrel}
1341 \Decl@Mn@Char\nsqdoublesmileeq {MnSyD}{\mathrel}
1342 \Decl@Mn@Char\nsqdoublfrownneq {MnSyD}{\mathrel}
1343 \Decl@Mn@Char\nsqsmileeqfrown {MnSyD}{\mathrel}
1344 \Decl@Mn@Char\nsqfrowneqsmile {MnSyD}{\mathrel}
1345 \Decl@Mn@Char\neqcirc {MnSyD}{\mathrel}
1346 \Decl@Mn@Char\ncirceq {MnSyD}{\mathrel}
1347 \Decl@Mn@Char\ntriangleeq {MnSyD}{\mathrel}
1348 \Decl@Mn@Char\nhateq {MnSyD}{\mathrel}
1349 \Decl@Mn@Char\nin {MnSyD}{\mathrel}
1350 \Decl@Mn@Alias\notin {MnSyD}{\mathrel}
1351 \Decl@Mn@Char\nowns {MnSyD}{\mathrel}
1352 \Decl@Mn@Char\nless {MnSyD}{\mathrel}
1353 \Decl@Mn@Char\ngtr {MnSyD}{\mathrel}
1354 \Decl@Mn@Char\ngleq {MnSyD}{\mathrel}
1355 \Decl@Mn@Char\ngreq {MnSyD}{\mathrel}
1356 \Decl@Mn@Char\ngleqslant {MnSyD}{\mathrel}
1357 \Decl@Mn@Char\ngreqslant {MnSyD}{\mathrel}
1358 \Decl@Mn@Char\ngleqq {MnSyD}{\mathrel}
1359 \Decl@Mn@Char\ngreqqq {MnSyD}{\mathrel}
1360 \Decl@Mn@Char\nlessgtr {MnSyD}{\mathrel}
1361 \Decl@Mn@Char\ngtrless {MnSyD}{\mathrel}
1362 \Decl@Mn@Char\nglesseqgtr {MnSyD}{\mathrel}
1363 \Decl@Mn@Char\ngtreqless {MnSyD}{\mathrel}
1364 \Decl@Mn@Char\nglesseqgtr {MnSyD}{\mathrel}
1365 \Decl@Mn@Char\ngtreqless {MnSyD}{\mathrel}
1366 \Decl@Mn@Char\nglesseqgtrslant {MnSyD}{\mathrel}
1367 \Decl@Mn@Char\ngtreqlessslant {MnSyD}{\mathrel}
1368 \Decl@Mn@Char\nll {MnSyD}{\mathrel}
1369 \Decl@Mn@Char\ngg {MnSyD}{\mathrel}
1370 \Decl@Mn@Char\ndl1 {MnSyD}{\mathrel}
1371 \Decl@Mn@Char\nggg {MnSyD}{\mathrel}
1372 \Decl@Mn@Char\nlessclosed {MnSyD}{\mathrel}
1373 \Decl@Mn@Alias\ntriangleright {MnSyD}{\mathrel}
1374 \Decl@Mn@Char\ngtrclosed {MnSyD}{\mathrel}
1375 \Decl@Mn@Alias\ntriangleright {MnSyD}{\mathrel}
1376 \Decl@Mn@Char\ngleqclosed {MnSyD}{\mathrel}

```

```

1377 \Decl@Mn@Alias\ntrianglerighteq {MnSyD}{\mathrel}
1378 \Decl@Mn@Char\ngtrclosed {MnSyD}{\mathrel}
1379 \Decl@Mn@Alias\ntrianglerighteq {MnSyD}{\mathrel}
1380 \Decl@Mn@Char\nsqsubset {MnSyD}{\mathrel}
1381 \Decl@Mn@Char\nsqsupset {MnSyD}{\mathrel}
1382 \Decl@Mn@Char\nsqsubsetseteq {MnSyD}{\mathrel}
1383 \Decl@Mn@Char\nsqsupseteq {MnSyD}{\mathrel}
1384 \Decl@Mn@Char\nsqsubsetseteqq {MnSyD}{\mathrel}
1385 \Decl@Mn@Char\nsqsupseteqqq {MnSyD}{\mathrel}
1386 \Decl@Mn@Char\nSqsubset {MnSyD}{\mathrel}
1387 \Decl@Mn@Char\nSqsupset {MnSyD}{\mathrel}
1388 \Decl@Mn@Char\nsubset {MnSyD}{\mathrel}
1389 \Decl@Mn@Char\nsupset {MnSyD}{\mathrel}
1390 \Decl@Mn@Char\nsubseteq {MnSyD}{\mathrel}
1391 \Decl@Mn@Char\nsupseteq {MnSyD}{\mathrel}
1392 \Decl@Mn@Char\nsubseteqq {MnSyD}{\mathrel}
1393 \Decl@Mn@Char\nsupseteqq {MnSyD}{\mathrel}
1394 \Decl@Mn@Char\nSubset {MnSyD}{\mathrel}
1395 \Decl@Mn@Char\nSupset {MnSyD}{\mathrel}
1396 \Decl@Mn@Char\nprec {MnSyD}{\mathrel}
1397 \Decl@Mn@Char\nsucc {MnSyD}{\mathrel}
1398 \Decl@Mn@Char\npreceq {MnSyD}{\mathrel}
1399 \Decl@Mn@Char\nsuccceq {MnSyD}{\mathrel}
1400 \Decl@Mn@Char\npreccurlyeq {MnSyD}{\mathrel}
1401 \Decl@Mn@Char\nsucccurlyeq {MnSyD}{\mathrel}
1402 \Decl@Mn@Char\nprecsim {MnSyD}{\mathrel}
1403 \Decl@Mn@Char\nsuccsim {MnSyD}{\mathrel}
1404 \Decl@Mn@Char\nprecapprox {MnSyD}{\mathrel}
1405 \Decl@Mn@Char\nsuccapprox {MnSyD}{\mathrel}
1406 \Decl@Mn@Char\nlessdot {MnSyD}{\mathrel}
1407 \Decl@Mn@Char\ngtrdot {MnSyD}{\mathrel}
1408 \Decl@Mn@Char\nleqdot {MnSyD}{\mathrel}
1409 \Decl@Mn@Char\ngedot {MnSyD}{\mathrel}
1410 \Decl@Mn@Char\nleqslantdot {MnSyD}{\mathrel}
1411 \Decl@Mn@Char\ngeslantdot {MnSyD}{\mathrel}
1412 \Decl@Mn@Char\lneqq {MnSyD}{\mathrel}
1413 \Decl@Mn@Alias\lvertneqq {MnSyD}{\mathrel}
1414 \Decl@Mn@Char\gneqq {MnSyD}{\mathrel}
1415 \Decl@Mn@Alias\gvertneqq {MnSyD}{\mathrel}
1416 \Decl@Mn@Char\lessneqqgtr {MnSyD}{\mathrel}
1417 \Decl@Mn@Char\gtrneqqless {MnSyD}{\mathrel}
1418 \Decl@Mn@Char\sqsubsetneqq {MnSyD}{\mathrel}
1419 \Decl@Mn@Char\sqsupsetneqq {MnSyD}{\mathrel}
1420 \Decl@Mn@Char\sqsubsetneqq {MnSyD}{\mathrel}
1421 \Decl@Mn@Char\sqsupsetneqq {MnSyD}{\mathrel}
1422 \Decl@Mn@Char\subsetneqq {MnSyD}{\mathrel}
1423 \Decl@Mn@Alias\varssubsetneqq {MnSyD}{\mathrel}
1424 \Decl@Mn@Char\supsetneqq {MnSyD}{\mathrel}
1425 \Decl@Mn@Alias\varsupsetneqq {MnSyD}{\mathrel}
1426 \Decl@Mn@Char\subsetneqq {MnSyD}{\mathrel}
1427 \Decl@Mn@Alias\varssubsetneqq {MnSyD}{\mathrel}
1428 \Decl@Mn@Char\supsetneqq {MnSyD}{\mathrel}
1429 \Decl@Mn@Alias\varsupsetneqq {MnSyD}{\mathrel}
1430 \Decl@Mn@Char\precnsim {MnSyD}{\mathrel}

```

```

1431 \Decl@Mn@Char\succnsim           {MnSyD}{\mathrel}
1432 \Decl@Mn@Char\precnapprox        {MnSyD}{\mathrel}
1433 \Decl@Mn@Char\succnapprox        {MnSyD}{\mathrel}
1434
1435 \DeclareRobustCommand{\coloneq}{\mathrel{\vdotdot}\mathrel{\equal}}}

MnSymbolF: Big operators.

1436 \Set@Mn@Sym{0}
1437 \Decl@Mn@Char\tbigplus            {symbols}{\mathop}
1438 \Decl@Mn@Char\dbigplus            {symbols}{\mathop}
1439 \Decl@Mn@Char\tbigtimes            {symbols}{\mathop}
1440 \Decl@Mn@Char\dbigtimes            {symbols}{\mathop}
1441 \Decl@Mn@Char\tbigwedge            {symbols}{\mathop}
1442 \Decl@Mn@Char\dbigwedge            {symbols}{\mathop}
1443 \Decl@Mn@Char\tbigvee              {symbols}{\mathop}
1444 \Decl@Mn@Char\dbigvee              {symbols}{\mathop}
1445 \Decl@Mn@Char\tbigwedgedot        {symbols}{\mathop}
1446 \Decl@Mn@Char\dbigwedgedot        {symbols}{\mathop}
1447 \Decl@Mn@Char\tbigveedot          {symbols}{\mathop}
1448 \Decl@Mn@Char\dbigveedot          {symbols}{\mathop}
1449 \Decl@Mn@Char\tbigdoublewedge      {symbols}{\mathop}
1450 \Decl@Mn@Char\dbigdoublewedge      {symbols}{\mathop}
1451 \Decl@Mn@Char\tbigdoublevee         {symbols}{\mathop}
1452 \Decl@Mn@Char\dbigdoublevee         {symbols}{\mathop}
1453 \Decl@Mn@Char\tbigcurlywedge       {symbols}{\mathop}
1454 \Decl@Mn@Char\dbigcurlywedge       {symbols}{\mathop}
1455 \Decl@Mn@Char\tbigcurlyvee          {symbols}{\mathop}
1456 \Decl@Mn@Char\dbigcurlyvee          {symbols}{\mathop}
1457 \Decl@Mn@Char\tbigcurlywedgedot    {symbols}{\mathop}
1458 \Decl@Mn@Char\dbigcurlywedgedot    {symbols}{\mathop}
1459 \Decl@Mn@Char\tbigcurlyveedot       {symbols}{\mathop}
1460 \Decl@Mn@Char\dbigcurlyveedot       {symbols}{\mathop}
1461 \Decl@Mn@Char\tbigdoublecurlywedge  {symbols}{\mathop}
1462 \Decl@Mn@Char\dbigdoublecurlywedge  {symbols}{\mathop}
1463 \Decl@Mn@Char\tbigdoublecurlyvee    {symbols}{\mathop}
1464 \Decl@Mn@Char\dbigdoublecurlyvee    {symbols}{\mathop}
1465 \Decl@Mn@Char\tbigcap               {symbols}{\mathop}
1466 \Decl@Mn@Char\dbigcap               {symbols}{\mathop}
1467 \Decl@Mn@Char\tbigcup               {symbols}{\mathop}
1468 \Decl@Mn@Char\dbigcup               {symbols}{\mathop}
1469 \Decl@Mn@Char\tbigcapdot            {symbols}{\mathop}
1470 \Decl@Mn@Char\dbigcapdot            {symbols}{\mathop}
1471 \Decl@Mn@Char\tbigcupdot             {symbols}{\mathop}
1472 \Decl@Mn@Char\dbigcupdot            {symbols}{\mathop}
1473 \Decl@Mn@Char\tbigcapplus            {symbols}{\mathop}
1474 \Decl@Mn@Char\dbigcapplus            {symbols}{\mathop}
1475 \Decl@Mn@Char\tbigcupplus             {symbols}{\mathop}
1476 \Decl@Mn@Char\dbigcupplus             {symbols}{\mathop}
1477 \Decl@Mn@Char\tbigsqcap              {symbols}{\mathop}
1478 \Decl@Mn@Char\dbigsqcap              {symbols}{\mathop}
1479 \Decl@Mn@Char\tbigsqcup              {symbols}{\mathop}
1480 \Decl@Mn@Char\dbigsqcup              {symbols}{\mathop}
1481 \Decl@Mn@Char\tbigsqcapdot            {symbols}{\mathop}
1482 \Decl@Mn@Char\dbigsqcapdot            {symbols}{\mathop}
1483 \Decl@Mn@Char\tbigsqcupdot            {symbols}{\mathop}

```

```

1484 \Decl@Mn@Char\dbigsqcupdot           {symbols}{\mathop}
1485 \Decl@Mn@Char\tbigsqcapplus          {symbols}{\mathop}
1486 \Decl@Mn@Char\dbigsqcapplus          {symbols}{\mathop}
1487 \Decl@Mn@Char\tbigsqcupplus          {symbols}{\mathop}
1488 \Decl@Mn@Char\dbigsqcupplus          {symbols}{\mathop}
1489 \Decl@Mn@Char\tbigcircle             {symbols}{\mathop}
1490 \Decl@Mn@Char\dbigcircle              {symbols}{\mathop}
1491 \Decl@Mn@Char\tbigominus              {symbols}{\mathop}
1492 \Decl@Mn@Char\dbigominus              {symbols}{\mathop}
1493 \Decl@Mn@Char\tbigovert               {symbols}{\mathop}
1494 \Decl@Mn@Char\dbigovert              {symbols}{\mathop}
1495 \Decl@Mn@Char\tbigoslash              {symbols}{\mathop}
1496 \Decl@Mn@Char\dbigoslash              {symbols}{\mathop}
1497 \Decl@Mn@Char\tbigobackslash         {symbols}{\mathop}
1498 \Decl@Mn@Char\dbigobackslash         {symbols}{\mathop}
1499 \Decl@Mn@Char\tbigoplus               {symbols}{\mathop}
1500 \Decl@Mn@Char\dbigoplus              {symbols}{\mathop}
1501 \Decl@Mn@Char\tbigotimes              {symbols}{\mathop}
1502 \Decl@Mn@Char\dbigotimes              {symbols}{\mathop}
1503 \Decl@Mn@Char\tbigodot               {symbols}{\mathop}
1504 \Decl@Mn@Char\dbigodot              {symbols}{\mathop}
1505 \Decl@Mn@Char\tbigocirc              {symbols}{\mathop}
1506 \Decl@Mn@Char\dbigocirc              {symbols}{\mathop}
1507 \Decl@Mn@Char\tbigotriangle          {symbols}{\mathop}
1508 \Decl@Mn@Char\dbigotriangle          {symbols}{\mathop}
1509 \Decl@Mn@Char\tbigoast                {symbols}{\mathop}
1510 \Decl@Mn@Char\dbigoast              {symbols}{\mathop}
1511 \Decl@Mn@Char\tbigostar              {symbols}{\mathop}
1512 \Decl@Mn@Char\dbigostar              {symbols}{\mathop}
1513 \Decl@Mn@Char\tprod                 {symbols}{\mathop}
1514 \Decl@Mn@Char\dprod                 {symbols}{\mathop}
1515 \Decl@Mn@Char\tcoprod                {symbols}{\mathop}
1516 \Decl@Mn@Char\dcoprod                {symbols}{\mathop}
1517 \Decl@Mn@Char\tsum                  {symbols}{\mathop}
1518 \Decl@Mn@Char\dsum                  {symbols}{\mathop}
1519 \Decl@Mn@Char\tint                  {symbols}{\mathop}
1520 \Decl@Mn@Char\dint                  {symbols}{\mathop}
1521 \Decl@Mn@Char\tiint                 {symbols}{\mathop}
1522 \Decl@Mn@Char\diint                 {symbols}{\mathop}
1523 \Decl@Mn@Char\tiintint              {symbols}{\mathop}
1524 \Decl@Mn@Char\diintint              {symbols}{\mathop}
1525 \Decl@Mn@Char\tiintint              {symbols}{\mathop}
1526 \Decl@Mn@Char\diintint              {symbols}{\mathop}
1527 \Decl@Mn@Char\tidotsint             {symbols}{\mathop}
1528 \Decl@Mn@Char\didotsint             {symbols}{\mathop}
1529 \Decl@Mn@Char\tlandupint            {symbols}{\mathop}
1530 \Decl@Mn@Char\dlandupint            {symbols}{\mathop}
1531 \Decl@Mn@Char\tlanddownint          {symbols}{\mathop}
1532 \Decl@Mn@Char\dlanddownint          {symbols}{\mathop}
1533 \Decl@Mn@Char\tstroke dint          {symbols}{\mathop}
1534 \Decl@Mn@Char\dstrokedint           {symbols}{\mathop}
1535 \Decl@Mn@Char\toint                 {symbols}{\mathop}
1536 \Decl@Mn@Char\doit                  {symbols}{\mathop}
1537 \Decl@Mn@Char\toiint                {symbols}{\mathop}

```

```

1538 \Decl@Mn@Char\doiint          {symbols}{\mathop}
1539 \Decl@Mn@Char\trccirclerightint {symbols}{\mathop}
1540 \Decl@Mn@Char\drccirclerightint {symbols}{\mathop}
1541 \Decl@Mn@Char\tlcirclerightint  {symbols}{\mathop}
1542 \Decl@Mn@Char\dlcirclerightint  {symbols}{\mathop}
1543 \Decl@Mn@Char\trccircleleftint   {symbols}{\mathop}
1544 \Decl@Mn@Char\drccircleleftint   {symbols}{\mathop}
1545 \Decl@Mn@Char\tlcircleleftint    {symbols}{\mathop}
1546 \Decl@Mn@Char\dlcircleleftint    {symbols}{\mathop}
1547 \Decl@Mn@Char\tsumint           {symbols}{\mathop}
1548 \Decl@Mn@Char\dsumint           {symbols}{\mathop}
1549 \Decl@Mn@Char\partialvartint     {symbols}{\mathop}
1550 \Decl@Mn@Char\partialvardint     {symbols}{\mathop}
1551 \Decl@Mn@Char\partialvartlandupint {symbols}{\mathop}
1552 \Decl@Mn@Char\partialvardlandupint {symbols}{\mathop}
1553 \Decl@Mn@Char\partialvartlanddownint {symbols}{\mathop}
1554 \Decl@Mn@Char\partialvardlanddownint {symbols}{\mathop}
1555 \Decl@Mn@Char\partialvartstrokedint {symbols}{\mathop}
1556 \Decl@Mn@Char\partialvardstrokedint {symbols}{\mathop}
1557 \Decl@Mn@Char\partialvartoint    {symbols}{\mathop}
1558 \Decl@Mn@Char\partialvardoint    {symbols}{\mathop}
1559 \Decl@Mn@Char\partialvartooint   {symbols}{\mathop}
1560 \Decl@Mn@Char\partialvardooint   {symbols}{\mathop}
1561 \Decl@Mn@Char\partialvartrccirclerightint {symbols}{\mathop}
1562 \Decl@Mn@Char\partialvardrcirclerightint {symbols}{\mathop}
1563 \Decl@Mn@Char\partialvartlcirclerightint {symbols}{\mathop}
1564 \Decl@Mn@Char\partialvardlccirclerightint {symbols}{\mathop}
1565 \Decl@Mn@Char\partialvartrccircleleftint {symbols}{\mathop}
1566 \Decl@Mn@Char\partialvardrcircleleftint {symbols}{\mathop}
1567 \Decl@Mn@Char\partialvartlcircleleftint {symbols}{\mathop}
1568 \Decl@Mn@Char\partialvardlccircleleftint {symbols}{\mathop}
1569 \Decl@Mn@Char\partialvartsumint      {symbols}{\mathop}
1570 \Decl@Mn@Char\partialvardsumint      {symbols}{\mathop}
1571 \Decl@Mn@Char\tcomplement         {symbols}{\mathop}
1572 \Decl@Mn@Char\dcomplement         {symbols}{\mathop}
1573
1574 \let\inttop\tint
1575 \let\ointtop\toint
1576 \Decl@Mn@Int\iint\diint\tiint
1577 \Decl@Mn@Int\iiint\diint\iiint
1578 \Decl@Mn@Int\iiiint\diint\iiiint
1579 \Decl@Mn@Int\idotsint\didotsint\tidotsint
1580 \Decl@Mn@Int\landupint\dlupint\tlandupint
1581 \Decl@Mn@Int\landdownint\dlndownint\tlanddownint
1582 \Decl@Mn@Int\strokedint\dstrokedint\tstrokedint
1583 \Decl@Mn@Int\oiint\dooint\toint
1584 \Decl@Mn@Int\rcirclerightint\drccirclerightint\trccirclerightint
1585 \Decl@Mn@Int\lcirclerightint\dlcirclerightint\tlcirclerightint
1586 \Decl@Mn@Int\rcircleleftint\drccircleleftint\trccircleleftint
1587 \Decl@Mn@Int\lcircleleftint\dlcircleleftint\tlcircleleftint
1588 \Decl@Mn@Int\sumint\dsumint\tsumint
1589
1590 \def\intkern@{\mkern-10mu\mathchoice{\mkern-6mu}{}{}{}}
1591 \def\intdots@{\mkern-7mu%

```

```

1592 \mathchoice{\mkern-3mu\cdots\mkern-3mu}{\cdotp\mkern0.5mu\cdotp\mkern0.5mu\cdotp}{\cdotp\cdotp\cdotp}{\cdotp\cdotp\cdotp}%
1593 {{\cdotp}\mkern0.5mu{\cdotp}\mkern0.5mu{\cdotp}}%
1594 {{\cdotp}{\cdotp}{\cdotp}}%
1595 {{\cdotp}{\cdotp}{\cdotp}}%
1596 \mkern-6mu}

1597
1598 \Decl@Mn@Op\bigplus\dbigplus\tbigplus
1599 \Decl@Mn@Op\bigtimes\dbigtimes\tbigtimes
1600 \Decl@Mn@Op\bigwedge\dbigwedge\tbigwedge
1601 \Decl@Mn@Op\bigvee\dbigvee\tbigvee
1602 \Decl@Mn@Op\bigwedgedot\dbigwedgedot\tbigwedgedot
1603 \Decl@Mn@Op\bigveedot\dbigveedot\tbigveedot
1604 \Decl@Mn@Op\bigdoublewedge\dbigdoublewedge\tbigdoublewedge
1605 \Decl@Mn@Op\bigdoublevee\dbigdoublevee\tbigdoublevee
1606 \Decl@Mn@Op\bigcurlywedge\dbigcurlywedge\tbigcurlywedge
1607 \Decl@Mn@Op\bigcurlyvee\dbigcurlyvee\tbigcurlyvee
1608 \Decl@Mn@Op\bigcurlywedgedot\dbigcurlywedgedot\tbigcurlywedgedot
1609 \Decl@Mn@Op\bigcurlyveedot\dbigcurlyveedot\tbigcurlyveedot
1610 \Decl@Mn@Op\bigdoublecurlywedge\dbigdoublecurlywedge\tbigdoublecurlywedge
1611 \Decl@Mn@Op\bigdoublecurlyvee\dbigdoublecurlyvee\tbigdoublecurlyvee
1612 \Decl@Mn@Op\bigcap\dbigcap\tbigcap
1613 \Decl@Mn@Op\bigcup\dbigcup\tbigcup
1614 \Decl@Mn@Op\bigcapdot\dbigcapdot\tbigcapdot
1615 \Decl@Mn@Op\bigcupdot\dbigcupdot\tbigcupdot
1616 \Decl@Mn@Op\bigcapplus\dbigcapplus\tbigcapplus
1617 \Decl@Mn@Op\bigcupplus\dbigcupplus\tbigcupplus
1618 \let\bigrplus\bigcupplus
1619 \Decl@Mn@Op\bigsqcap\dbigsqcap\tbigsqcap
1620 \Decl@Mn@Op\bigsqcup\dbigsqcup\tbigsqcup
1621 \Decl@Mn@Op\bigsqcapdot\dbigsqcapdot\tbigsqcapdot
1622 \Decl@Mn@Op\bigsqcupdot\dbigsqcupdot\tbigsqcupdot
1623 \Decl@Mn@Op\bigsqcapplus\dbigsqcapplus\tbigsqcapplus
1624 \Decl@Mn@Op\bigsqcupplus\dbigsqcupplus\tbigsqcupplus
1625 \Decl@Mn@Op\bigcircle\dbigcircle\tbigcircle
1626 \Decl@Mn@Op\bigominus\dbigominus\tbigominus
1627 \Decl@Mn@Op\bigovert\dbigovert\tbigovert
1628 \Decl@Mn@Op\bigslash\dbigoslash\tbigoslash
1629 \Decl@Mn@Op\bigbackslash\dbigbackslash\tbigbackslash
1630 \Decl@Mn@Op\bigoplus\dbigoplus\tbigoplus
1631 \Decl@Mn@Op\bigotimes\dbigotimes\tbigotimes
1632 \Decl@Mn@Op\bigodot\dbigodot\tbigodot
1633 \Decl@Mn@Op\bigocirc\dbigocirc\tbigocirc
1634 \Decl@Mn@Op\bigtriangle\dbigtriangle\tbigtriangle
1635 \Decl@Mn@Op\bigoast\dbigoast\tbigoast
1636 \Decl@Mn@Op\bigstar\dbigstar\tbigstar
1637 \Decl@Mn@Op\sum\dsum\tsum
1638 \Decl@Mn@Op\prod\dpred\tprod
1639 \Decl@Mn@Op\coprod\dcoprod\tcoprod
1640 \Decl@Mn@Op\complement\dcomplement\tcomplement

```

Delimiters.

```
1641 \let\lfloor\undefined  
1642 \let\rfloor\undefined  
1643 \let\lceil\undefined  
1644 \let\rceil\undefined
```

```

1645 \let\langle\undefined
1646 \let\rangle\undefined
1647
1648 \Decl@Mn@Open {}                                {largesymbols}{'000}
1649 \Decl@Mn@Close{}                               {largesymbols}{'005}
1650 \Decl@Mn@Open {\lfloor}                         {largesymbols}{'012}
1651 \Decl@Mn@Close{\rfloor}                         {largesymbols}{'017}
1652 \Decl@Mn@Open {\lceil}                           {largesymbols}{'024}
1653 \Decl@Mn@Close{\rceil}                          {largesymbols}{'031}
1654 \Decl@Mn@Open {\ulcorner}                        {largesymbols}{'036}
1655 \Decl@Mn@Close{\urcorner}                      {largesymbols}{'043}
1656 \Decl@Mn@Open {\llcorner}                        {largesymbols}{'050}
1657 \Decl@Mn@Close{\lrcorner}                       {largesymbols}{'055}
1658 \Decl@Mn@Open {\ulcorner}                        {largesymbols}{'062}
1659 \Decl@Mn@Close{\ulrcorner}                      {largesymbols}{'067}
1660 \Decl@Mn@Open {\lsem}                            {largesymbols}{'102}
1661 \Decl@Mn@Close{\rsem}                           {largesymbols}{'107}
1662 \Decl@Mn@Delim{|}                             {\mathord}{largesymbols}{'123}
1663 \Decl@Mn@Delim{\vert}                          {\mathord}{largesymbols}{'123}
1664 \Decl@Mn@Delim{\mvert}                         {\mathrel}{largesymbols}{'123}
1665   \let\mid\mvert
1666 \Decl@Mn@Open {\lvert}                           {largesymbols}{'123}
1667 \Decl@Mn@Close{\rvert}                          {largesymbols}{'123}
1668 \Decl@Mn@Delim{\Vert}                          {\mathord}{largesymbols}{'131}
1669   \let|\mid\Vert
1670 \Decl@Mn@Delim{\mVert}                         {\mathrel}{largesymbols}{'131}
1671 \Decl@Mn@Open {\lVert}                           {largesymbols}{'131}
1672 \Decl@Mn@Close{\rVert}                          {largesymbols}{'131}
1673 \Decl@Mn@Delim{\arrowvert}{\mathord}{largesymbols}{'122}
1674 \Decl@Mn@Delim{\Arrowvert}{\mathord}{largesymbols}{'130}
1675 \Decl@Mn@Open {\lwavey}                          {largesymbols}{'136}
1676 \Decl@Mn@Close{\rwavey}                        {largesymbols}{'136}
1677 \Decl@Mn@Open {\lWavy}                           {largesymbols}{'137}
1678 \Decl@Mn@Close{\rWavy}                          {largesymbols}{'137}
1679
1680 \Decl@Mn@Open {<}                            {largesymbols}{'140}
1681 \Decl@Mn@Close{>}                           {largesymbols}{'145}
1682 \Decl@Mn@Open {\langle}                          {largesymbols}{'140}
1683 \Decl@Mn@Close{\rangle}                         {largesymbols}{'145}
1684 \Decl@Mn@Open {\langle bar}                     {largesymbols}{'152}
1685 \Decl@Mn@Close{\rangle bar}                    {largesymbols}{'157}
1686 \Decl@Mn@Open {\llangle}                        {largesymbols}{'164}
1687 \Decl@Mn@Close{\rrangle}                       {largesymbols}{'171}
1688 \Decl@Mn@Delim{/}                            {\mathord}{largesymbols}{'176}
1689 \Decl@Mn@Delim{\backslash}{\mathord}{largesymbols}{'203}
1690 \expandafter\DeclareMathDelimiter\@backslashchar
1691                                     {\mathord}{largesymbols}{'203}{largesymbols}{'203}
1692 \Decl@Mn@Open {}                                {largesymbols}{'210}
1693 \Decl@Mn@Close{}                               {largesymbols}{'215}
1694 \Decl@Mn@Open {\lbrace}                          {largesymbols}{'230}
1695 \Decl@Mn@Close{\rbrace}                         {largesymbols}{'235}
1696 \Decl@Mn@Close{\lgrou}                         {largesymbols}{'242}
1697 \Decl@Mn@Open {\rgrou}                          {largesymbols}{'243}
1698 \Decl@Mn@Close{\rmoustache}                   {largesymbols}{'244}

```

```

1699 \Decl@Mn@Open {\lmoustache}           {largesymbols}{'245}
1700 \Decl@Mn@Delim{\bracevert}{\mathord}{largesymbols}{'250}

    Support for expandable braces.

1701 \DeclareMathSymbol{\downbrace}      {\mathord}{largesymbols}{'251}
1702 \DeclareMathSymbol{\downbraceg}     {\mathord}{largesymbols}{'252}
1703 \DeclareMathSymbol{\downbracegg}   {\mathord}{largesymbols}{'253}
1704 \DeclareMathSymbol{\downbraceggg}  {\mathord}{largesymbols}{'254}
1705 \DeclareMathSymbol{\downbracegggg} {\mathord}{largesymbols}{'255}
1706 \DeclareMathSymbol{\upbrace}       {\mathord}{largesymbols}{'256}
1707 \DeclareMathSymbol{\upbraceg}     {\mathord}{largesymbols}{'257}
1708 \DeclareMathSymbol{\upbracegg}   {\mathord}{largesymbols}{'260}
1709 \DeclareMathSymbol{\upbraceggg}  {\mathord}{largesymbols}{'261}
1710 \DeclareMathSymbol{\upbracegggg} {\mathord}{largesymbols}{'262}
1711 \DeclareMathSymbol{\braceld}      {\mathord}{largesymbols}{'263}
1712 \DeclareMathSymbol{\bracelu}      {\mathord}{largesymbols}{'264}
1713 \DeclareMathSymbol{\bracerd}      {\mathord}{largesymbols}{'265}
1714 \DeclareMathSymbol{\braceru}      {\mathord}{largesymbols}{'266}
1715 \DeclareMathSymbol{\bracemd}      {\mathord}{largesymbols}{'267}
1716 \DeclareMathSymbol{\bracemu}      {\mathord}{largesymbols}{'270}
1717 \DeclareMathSymbol{\bracemid}    {\mathord}{largesymbols}{'271}

1718
1719 \let\uparrowarrow\undefined
1720 \let\downarrowarrow\undefined
1721 \let\updownarrow\undefined
1722 \let\Uparrow\undefined
1723 \let\Downarrow\undefined
1724 \let\Updownarrow\undefined
1725 \DeclareMathDelimiter{\uparrowarrow} {\mathrel}{MnSyA}{'001}{largesymbols}{'325}
1726 \DeclareMathDelimiter{\downarrowarrow} {\mathrel}{MnSyA}{'003}{largesymbols}{'326}
1727 \DeclareMathDelimiter{\updownarrow} {\mathrel}{MnSyA}{'021}{largesymbols}{'327}
1728 \DeclareMathDelimiter{\Uparrow} {\mathrel}{MnSyA}{'011}{largesymbols}{'330}
1729 \DeclareMathDelimiter{\Downarrow} {\mathrel}{MnSyA}{'013}{largesymbols}{'331}
1730 \DeclareMathDelimiter{\Updownarrow} {\mathrel}{MnSyA}{'025}{largesymbols}{'332}
1731
1732
1733 % \horiz@expandable{sym1}..{sym6}{style}{arg}
1734
1735 \def\horiz@expandable#1#2#3#4#5#6#7#8%{
1736   \mathmeasure{z@#7{#8}}%
1737   \tempdima=\wd{z@}
1738   \mathmeasure{z@#7{#1}}%
1739   \ifdim\noexpand\wd{z@}>\tempdima
1740     $m@th#7#1$%
1741   \else
1742     \mathmeasure{z@#7{#2}}%
1743     \ifdim\noexpand\wd{z@}>\tempdima
1744       $m@th#7#2$%
1745     \else
1746       \mathmeasure{z@#7{#3}}%
1747       \ifdim\noexpand\wd{z@}>\tempdima
1748         $m@th#7#3$%
1749       \else
1750         \mathmeasure{z@#7{#4}}%
1751         \ifdim\noexpand\wd{z@}>\tempdima

```

```

1752      $ \m@th#7#4$%
1753      \else
1754          \@mathmeasure\z@#7{#5}%
1755          \ifdim\noexpand\wd\z@>\@tempdima
1756              $ \m@th#7#5$%
1757          \else
1758              #6#7%
1759          \fi
1760      \fi
1761      \fi
1762      \fi
1763  \fi}
1764
1765 \def\overbrace@expandable#1#2#3{\vbox{\m@th\ialign{##\crcr
1766   #1#2{#3}\crcr\noalign{\kern2\p@\nointerlineskip}%
1767   $ \m@th\hfil#2#3\hfil$\crcr}}
1768 \def\underbrace@expandable#1#2#3{\vtop{\m@th\ialign{##\crcr
1769   $ \m@th\hfil#2#3\hfil$\crcr
1770   \noalign{\kern2\p@\nointerlineskip}%
1771   #1#2{#3}\crcr}}
1772
1773 \def\overbrace@#1#2#3{\vbox{\m@th\ialign{##\crcr
1774   #1#2\crcr\noalign{\kern2\p@\nointerlineskip}%
1775   $ \m@th\hfil#2#3\hfil$\crcr}}
1776 \def\underbrace@#1#2#3{\vtop{\m@th\ialign{##\crcr
1777   $ \m@th\hfil#2#3\hfil$\crcr
1778   \noalign{\kern2\p@\nointerlineskip}%
1779   #1#2\crcr}}
1780
1781 \def\bracefill@#1#2#3#4#5{$\m@th#5#1\leaders\hbox{##4}\hfill#2\leaders\hbox{##4}\hfill#3$}
1782
1783 \def\downbracefill@{\bracefill@\braceld\bracemd\bracerd\bracemid}
1784 \def\upbracefill@{\bracefill@\bracelu\bracemu\braceru\bracemid}
1785 \def\downgroupfill@{\bracefill@\braceld{}\bracerd\bracemid}
1786 \def\upgroupfill@{\bracefill@\bracelu{}\braceru\bracemid}
1787 \def\linesegmentfill@{\arrowfill@\leftfootline\relbar\rightfootline}
1788 \def\leftharpoonfill@{\arrowfill@\leftharpoondown\relbar\relbar}
1789 \def\rightharpoonfill@{\arrowfill@\relbar\relbar\rightharpoonup}
1790
1791 \DeclareRobustCommand{\downbracefill}{\downbracefill@\textstyle}
1792 \DeclareRobustCommand{\upbracefill}{\upbracefill@\textstyle}
1793
1794 \def\upbrace@expandable{%
1795   \horiz@expandable
1796   \upbrace
1797   \upbraceg
1798   \upbracegg
1799   \upbraceggg
1800   \upbracegggg
1801   \upbracefill@}
1802 \def\downbrace@expandable{%
1803   \horiz@expandable
1804   \downbrace
1805   \downbraceg

```

```

1806   \downbraceegg
1807   \downbraceeggg
1808   \downbracegggg
1809   \downbracefill@}
1810
1811 \DeclareRobustCommand{\overbrace}{[1]{\mathop{\mathpalette{\overbrace@{expandable}\downbrace@{expanda}}}}
1812 \DeclareRobustCommand{\underbrace}{[1]{\mathop{\mathpalette{\underbrace@{expandable}\upbrace@{expanda}}}}
1813
1814 \DeclareRobustCommand{\overgroup}{\mathpalette{\overbrace@{downgroupfill@}}}
1815 \DeclareRobustCommand{\undergroup}{\mathpalette{\underbrace@{upgroupfill@}}}
1816 \DeclareRobustCommand{\overlinesegment}{\mathpalette{\overarrow@{linesegmentfill@}}}
1817 \DeclareRobustCommand{\overleftharpoon}{\mathpalette{\overarrow@{leftharpoonfill@}}}
1818 \DeclareRobustCommand{\overrightharpoon}{\mathpalette{\overarrow@{rightharpoonfill@}}}
1819 \DeclareRobustCommand{\underlinesegment}{\mathpalette{\underarrow@{linesegmentfill@}}}

    Mathchars.

1820 \DeclareMathSymbol{=}{\mathrel}{MnSyD}{`000}
1821 \DeclareMathSymbol{<}{\mathrel}{MnSyD}{`100}
1822 \DeclareMathSymbol{>}{\mathrel}{MnSyD}{`101}
1823 \DeclareMathSymbol{+}{\mathbin}{MnSyC}{`024}
1824 \DeclareMathSymbol{-}{\mathbin}{MnSyC}{`020}
1825 \DeclareMathSymbol{*}{\mathbin}{MnSyC}{`207}
1826 \DeclareMathSymbol{|}{\mathord}{largesymbols}{`123}
1827 \DeclareMathSymbol{()}{\mathopen}{largesymbols}{`210}
1828 \DeclareMathSymbol{}{\mathclose}{largesymbols}{`215}
1829 \DeclareMathSymbol{:}{\mathrel}{MnSyC}{`002}
1830 \DeclareMathSymbol{[]}{\mathopen}{largesymbols}{`000}
1831 \DeclareMathSymbol{}{\mathclose}{largesymbols}{`005}
1832 \DeclareMathSymbol{/}{\mathord}{largesymbols}{`176}
1833
1834 \DeclareMathRadical{\sqrt{sign}}{largesymbols}{`272}{largesymbols}{`272}
1835 \DeclareRobustCommand{\surd}{\mathchar`11672}

1836
1837 \DeclareMathAccent{\widehat}{\mathord}{largesymbols}{`302}
1838 \DeclareMathAccent{\widetilde}{\mathord}{largesymbols}{`307}
1839 \DeclareMathAccent{\wideparen}{\mathord}{largesymbols}{`314}
1840 \DeclareMathAccent{\vec}{\mathord}{largesymbols}{`321}
1841 \DeclareMathAccent{\middlebar}{\mathord}{largesymbols}{`322}
1842 \DeclareMathAccent{\middleslash}{\mathord}{largesymbols}{`323}
1843 \DeclareMathAccent{\strokethrough}{\mathord}{largesymbols}{`324}

```

There is no `\not` symbol in MnSymbol since all symbols come with a stroked companion. For compatibility we define a `\not` command that places a virgule over the following symbol.

```

1844 %\def\overstrike#1#2{%
1845 %  \mathchoice
1846 %    {\@overstrike\displaystyle{#1}{#2}}%
1847 %    {\@overstrike\textstyle{#1}{#2}}%
1848 %    {\@overstrike\scriptstyle{#1}{#2}}%
1849 %    {\@overstrike\scriptscriptstyle{#1}{#2}}%
1850 %  #2}
1851 %\def\@overstrike#1#2#3{%
1852 %  {\setbox0\hbox{$\m@th#1#3$}%
1853 %   \hbox to \wd0{\hss$\m@th#1#2\hss}%
1854 %   \kern-\wd0}}

```

```
1855 \%def\not#1{\mathrel{\overstrike{/}}{#1}}}
1856 \def\c@ncel#1#2{\m@th\ooalign{$\hfil#1/\hfil$\crcr$#1#2$}}
1857 \def\not#1{\mathrel{\m@th\mathpalette\c@ncel{#1}}}
1858 %
1859 %\renewcommand{\AmSfont}{%
1860 %  \usefont{OMS}{MnSymbolS}{\if\exp\@car\f@series\@nil\bb\else\m\fi}{n}}
1861 </style>
```