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 LaTeX 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

$\rightarrow$	`\rightarrow`, `\to`	$\searrow$	`\searrow`
$\uparrow$	`\uparrow`	$\Rightarrow$	`\Rightarrow`
$\leftarrow$	`\leftarrow`, `\gets`	$\Uparrow$	`\Uparrow`
$\downarrow$	`\downarrow`	$\Leftarrow$	`\Leftarrow`
$\nearrow$	`\nearrow`	$\Downarrow$	`\Downarrow`
$\nwarrow$	`\nwarrow`	$\Nearrow$	`\Nearrow`
$\swarrow$	`\swarrow`	$\Nwarrow$	`\Nwarrow`

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

$\Swarrow$	\Swarrow
$\Searrow$	\Searrow
$\leftrightarrow$	\leftrightarrow
$\updownarrow$	\updownarrow
$\neswarrow$	\neswarrow
$\nwsearrow$	\nwsearrow
$\Leftrightarrow$	\Leftrightarrow
$\Updownarrow$	\Updownarrow
$\Neswarrow$	\Neswarrow
$\Nwsearrow$	\Nwsearrow
$\twoheadrightarrow$	\twoheadrightarrow
$\twoheaduparrow$	\twoheaduparrow
$\twoheadleftarrow$	\twoheadleftarrow
$\twoheaddownarrow$	\twoheaddownarrow
$\twoheadnearrow$	\twoheadnearrow
$\twoheadnwarrow$	\twoheadnwarrow
$\twoheadswarrow$	\twoheadswarrow
$\twoheadsearrow$	\twoheadsearrow
$\rightarrowtail$	\rightarrowtail
$\uparrowtail$	\uparrowtail
$\leftarrowtail$	\leftarrowtail
$\downarrowtail$	\downarrowtail
$\nearrowtail$	\nearrowtail
$\nwarrowtail$	\nwarrowtail
$\swarrowtail$	\swarrowtail
$\searrowtail$	\searrowtail
$\rightmapsto$	\rightmapsto, \mapsto
$\upmapsto$	\upmapsto
$\leftmapsto$	\leftmapsto
$\downmapsto$	\downmapsto
$\nemapsto$	\nemapsto
$\nwmapsto$	\nwmapsto
$\swmapsto$	\swmapsto
$\semapsto$	\semapsto
$\lhookrightarrow$	\lhookrightarrow, \hookrightarrow
$\lhookuparrow$	\lhookuparrow
$\lhookleftarrow$	\lhookleftarrow
$\lhookdownarrow$	\lhookdownarrow
$\lhooknearrow$	\lhooknearrow
$\lhooknwarrow$	\lhooknwarrow
$\lhookswarrow$	\lhookswarrow
$\lhooksearrow$	\lhooksearrow
$\rhookrightarrow$	\rhookrightarrow
$\rhookuparrow$	\rhookuparrow
$\rhookleftarrow$	\rhookleftarrow, \hookleftarrow
$\rhookdownarrow$	\rhookdownarrow
$\rhooknearrow$	\rhooknearrow
$\rhooknwarrow$	\rhooknwarrow
$\rhookswarrow$	\rhookswarrow
$\rhooksearrow$	\rhooksearrow
$\rightharpooonccw$	\rightharpoonccw, \rightharpoonup
$\upharpoonccw$	\upharpoonccw, \upharpoonleft
$\leftharpoonccw$	\leftharpoonccw, \leftharpoondown
$\downharpoonccw$	\downharpoonccw, \downharpoonright
$\neharpoonccw$	\neharpoonccw
$\nwharpoonccw$	\nwharpoonccw
$\swharpoonccw$	\swharpoonccw
$\seharpoonccw$	\seharpoonccw
$\rightharpooncw$	\rightharpooncw, \rightharpoondown
$\upharpooncw$	\upharpooncw, \upharpoonright, \restriction
$\leftharpooncw$	\leftharpooncw, \leftharpoonup
$\downharpooncw$	\downharpooncw, \downharpoonleft
$\neharpooncw$	\neharpooncw
$\nwharpooncw$	\nwharpooncw
$\swharpooncw$	\swharpooncw
$\seharpooncw$	\seharpooncw
$\leftrightharpoonupdown$	\leftrightharpoonupdown
$\updownharpoonleftright$	\updownharpoonleftright
$\neswharpoonnwse$	\neswharpoonnwse
$\nwseharpoonnesw$	\nwseharpoonnesw
$\leftrightharpoondownup$	\leftrightharpoondownup
$\updownharpoonrightleft$	\updownharpoonrightleft
$\neswharpoonsenw$	\neswharpoonsenw
$\nwseharpoonswne$	\nwseharpoonswne
$\rightleftharpoons$	\rightleftharpoons
$\updownharpoons$	\updownharpoons
$\neswharpoons$	\neswharpoons
$\senwharpoons$	\senwharpoons
$\leftrightharpoons$	\leftrightharpoons
$\downupharpoons$	\downupharpoons
$\swneharpoons$	\swneharpoons
$\nwseharpoons$	\nwseharpoons
$\dashedrightarrow$	\dashedrightarrow, \dashrightarrow, \dasharrow
$\dasheduparrow$	\dasheduparrow
$\dashedleftarrow$	\dashedleftarrow, \dashleftarrow
$\dasheddownarrow$	\dasheddownarrow
$\dashednearrow$	\dashednearrow
$\dashednwarrow$	\dashednwarrow
$\dashedswarrow$	\dashedswarrow
$\dashedsearrow$	\dashedsearrow

Symbol	Command
$\rightspoon$	\rightspoon, \multimap
$\upspoon$	\upspoon
$\leftspoon$	\leftspoon
$\downspoon$	\downspoon
$\nespoon$	\nespoon
$\nwspoon$	\nwspoon
$\swspoon$	\swspoon
$\sespoon$	\sespoon
$\rightfilledspoon$	\rightfilledspoon
$\upfilledspoon$	\upfilledspoon
$\leftfilledspoon$	\leftfilledspoon
$\downfilledspoon$	\downfilledspoon
$\nefilledspoon$	\nefilledspoon
$\nwfilledspoon$	\nwfilledspoon
$\swfilledspoon$	\swfilledspoon
$\sefilledspoon$	\sefilledspoon
$\rightfootline$	\rightfootline
$\upfootline$	\upfootline
$\leftfootline$	\leftfootline
$\downfootline$	\downfootline
$\nefootline$	\nefootline
$\nwfootline$	\nwfootline
$\swfootline$	\swfootline
$\sefootline$	\sefootline
$\rightfree$	\rightfree
$\upfree$	\upfree
$\leftfree$	\leftfree
$\downfree$	\downfree
$\nefree$	\nefree
$\nwfree$	\nwfree
$\swfree$	\swfree
$\sefree$	\sefree
$\rightpitchfork$	\rightpitchfork
$\uppitchfork$	\uppitchfork, \pitchfork
$\leftpitchfork$	\leftpitchfork
$\downpitchfork$	\downpitchfork
$\nepitchfork$	\nepitchfork
$\nwpitchfork$	\nwpitchfork
$\swpitchfork$	\swpitchfork
$\sepitchfork$	\sepitchfork
$\rightrightarrows$	\rightrightarrows
$\upuparrows$	\upuparrows
$\leftleftarrows$	\leftleftarrows
$\downdownarrows$	\downdownarrows
$\nenearrows$	\nenearrows
$\nwnwarrows$	\nwnwarrows
$\swswarrows$	\swswarrows
$\sesearrows$	\sesearrows
$\rightleftarrows$	\rightleftarrows
$\updownarrows$	\updownarrows

Symbol	Command
$\neswarrows$	\neswarrows
$\nwsearrows$	\nwsearrows
$\leftrightarrows$	\leftrightarrows
$\downuparrows$	\downuparrows
$\swnearrows$	\swnearrows
$\senwarrows$	\senwarrows
$\rightlsquigarrow$	\rightlsquigarrow, \leadsto, \rightsquigarrow
$\uplsquigarrow$	\uplsquigarrow
$\leftlsquigarrow$	\leftlsquigarrow
$\downlsquigarrow$	\downlsquigarrow
$\nelsquigarrow$	\nelsquigarrow
$\nwlsquigarrow$	\nwlsquigarrow
$\swlsquigarrow$	\swlsquigarrow
$\selsquigarrow$	\selsquigarrow
$\rightrsquigarrow$	\rightrsquigarrow
$\uprsquigarrow$	\uprsquigarrow
$\leftrsquigarrow$	\leftrsquigarrow
$\downrsquigarrow$	\downrsquigarrow
$\nersquigarrow$	\nersquigarrow
$\nwrsquigarrow$	\nwrsquigarrow
$\swrsquigarrow$	\swrsquigarrow
$\sersquigarrow$	\sersquigarrow
$\squigarrowleftright$	\squigarrowleftright, \leftrightsquigarrow
$\squigarrowupdown$	\squigarrowupdown
$\squigarrowrightleft$	\squigarrowrightleft
$\squigarrowdownup$	\squigarrowdownup
$\squigarrownesw$	\squigarrownesw
$\squigarrownwse$	\squigarrownwse
$\squigarrowswne$	\squigarrowswne
$\squigarrowsenw$	\squigarrowsenw
$\lcurvearrowright$	\lcurvearrowright, \curvearrowright
$\lcurvearrowup$	\lcurvearrowup
$\lcurvearrowleft$	\lcurvearrowleft
$\lcurvearrowdown$	\lcurvearrowdown
$\lcurvearrowne$	\lcurvearrowne
$\lcurvearrownw$	\lcurvearrownw
$\lcurvearrowsw$	\lcurvearrowsw
$\lcurvearrowse$	\lcurvearrowse
$\rcurvearrowright$	\rcurvearrowright
$\rcurvearrowup$	\rcurvearrowup
$\rcurvearrowleft$	\rcurvearrowleft, \curvearrowleft
$\rcurvearrowdown$	\rcurvearrowdown
$\rcurvearrowne$	\rcurvearrowne
$\rcurvearrownw$	\rcurvearrownw
$\rcurvearrowsw$	\rcurvearrowsw
$\rcurvearrowse$	\rcurvearrowse

⤻ \curvearrowleftright
⤹ \curvearrowupdown
⤺ \curvearrowrightleft
⤸ \curvearrowdownup
⤴ \curvearrownesw
⤷ \curvearrownwse
⤴ \curvearrowswne
⤶ \curvearrowsenw
— \leftrightline, \relbar
| \updownline, \divides
⟋ \neswline, \diagup
⟍ \nwseline, \diagdown
═ \Leftrightline, \Relbar
‖ \Updownline, \parallel
⫽ \Neswline
⑊ \Nwseline
⊢ \rightvdash, \vdash
⊥ \upvdash, \perp
⊣ \leftvdash, \dashv
⊤ \downvdash
\nevdash
\nwvdash
\swvdash
\sevdash
⊨ \rightmodels, \models, \vDash
⫫ \upmodels
⫤ \leftmodels
⫪ \downmodels
\nemodels
\nwmodels
\swmodels
\semodels
⊩ \rightVdash, \Vdash
\upVdash
⫣ \leftVdash
\downVdash
\neVdash
\nwVdash
\swVdash
\seVdash
⊫ \rightModels, \VDash
\upModels
⫥ \leftModels
\downModels
\neModels
\nwModels
\swModels
\seModels
↻ \rcirclearrowright
↻ \rcirclearrowup,
\circlearrowleft
↺ \rcirclearrowleft
↻ \rcirclearrowdown
↻ \lcirclearrowright
↺ \lcirclearrowup,
\circlearrowright
↺ \lcirclearrowleft
↺ \lcirclearrowdown
⟶ \longrightarrow
⟵ \longleftarrow
⟷ \longleftrightarrow
⟹ \Longrightarrow
⟸ \Longleftarrow
⟺ \Longleftrightarrow
⟼ \longmapsto
⧟ \emptyfilledspoon
⧟ \filledemptyspoon
⧟ \largeemptyfilledspoon
⧟ \largefilledemptyspoon
⇛ \Rrightarrow
⇚ \Lleftarrow
↱ \Rsh
↰ \Lsh
↬ \looparrowright
↫ \looparrowleft
⊪ \Vvdash

Negated arrows

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

\nleftrightarrow
\nupdownarrow
\nneswarrow
\nnwsearrow
\nLeftrightarrow
\nUpdownarrow
\nNeswarrow
\nNwsearrow
\ntwoheadrightarrow
\ntwoheaduparrow
\ntwoheadleftarrow
\ntwoheaddownarrow
\ntwoheadnearrow
\ntwoheadnwarrow
\ntwoheadswarrow
\ntwoheadsearrow
\nrightarrowtail
\nuparrowtail
\nleftarrowtail
\ndownarrowtail
\nnearrowtail
\nnwarrowtail
\nswarrowtail
\nsearrowtail
\nrightmapsto, \nmapsto
\nupmapsto
\nleftmapsto
\ndownmapsto
\nnemapsto
\nnwmapsto
\nswmapsto
\nsemapsto
\nlhookrightarrow, \nhookrightarrow
\nlhookuparrow
\nlhookleftarrow
\nlhookdownarrow
\nlhooknearrow
\nlhooknwarrow
\nlhookswarrow
\nlhooksearrow
\nrhookrightarrow
\nrhookuparrow
\nrhookleftarrow, \nhookleftarrow
\nrhookdownarrow
\nrhooknearrow
\nrhooknwarrow
\nrhookswarrow
\nrhooksearrow
\nrightharpooncccw, \nrightharpoonup
\nupharpoonccw, \nupharpoonleft
\nleftharpoonccw, \nleftharpoondown
\ndownharpoonccw, \ndownharpoonright
\nneharpoonccw
\nnwharpoonccw
\nswharpoonccw
\nseharpoonccw
\nrightharpooncw, \nrightharpoondown
\nupharpooncw, \nupharpoonright, \nrestriction
\nleftharpooncw, \nleftharpoonup
\ndownharpooncw, \ndownharpoonleft
\nneharpooncw
\nnwharpooncw
\nswharpooncw
\nseharpooncw
\nleftrightharpoonupdown
\nupdownharpoonleftright
\nneswharpoonnwse
\nnwseharpoonnesw
\nleftrightharpoondownup
\nupdownharpoonrightleft
\nneswharpoonsenw
\nnwseharpoonswne
\nrightleftharpoons
\nupdownharpoons
\nneswharpoons
\nsenwharpoons
\nleftrightharpoons
\ndownupharpoons
\nswneharpoons
\nnwseharpoons
\ndashedrightarrow, \ndashrightarrow, \ndasharrow
\ndasheduparrow
\ndashedleftarrow, \ndashleftarrow
\ndasheddownarrow
\ndashednearrow
\ndashednwarrow

\ndashedswarrow
\ndashedsearrow
\nrightspoon, \nmultimap
\nupspoon
\nleftspoon
\ndownspoon
\nnespoon
\nnwspoon
\nswspoon
\nsespoon
\nrightfilledspoon
\nupfilledspoon
\nleftfilledspoon
\ndownfilledspoon
\nnefilledspoon
\nnwfilledspoon
\nswfilledspoon
\nsefilledspoon
\nrightfootline
\nupfootline
\nleftfootline
\ndownfootline
\nnefootline
\nnwfootline
\nswfootline
\nsefootline
\nrightfree
\nupfree
\nleftfree
\ndownfree
\nnefree
\nnwfree
\nswfree
\nsefree
\nrightpitchfork
\nuppitchfork, \npitchfork
\nleftpitchfork
\ndownpitchfork
\nnepitchfork
\nnwpitchfork
\nswpitchfork
\nsepitchfork
\nrightrightarrows
\nupuparrows
\nleftleftarrows
\ndowndownarrows
\nnenearrows
\nnwnwarrows
\nswswarrows
\nsesearrows
\nrightleftarrows
\nupdownarrows
\nneswarrows
\nnwsearrows
\nleftrightarrows
\ndownuparrows
\nswnearrows
\nsenwarrows
\nrightlsquigarrow, \nleadsto, \nrightsquigarrow
\nuplsquigarrow
\nleftlsquigarrow
\ndownlsquigarrow
\nnelsquigarrow
\nnwlsquigarrow
\nswlsquigarrow
\nselsquigarrow
\nrightrsquigarrow
\nuprsquigarrow
\nleftrsquigarrow
\ndownrsquigarrow
\nnersquigarrow
\nnwrsquigarrow
\nswrsquigarrow
\nsersquigarrow
\nsquigarrowleftright, \nleftrightsquigarrow
\nsquigarrowupdown
\nsquigarrowrightleft
\nsquigarrowdownup
\nsquigarrownesw
\nsquigarrownwse
\nsquigarrowswne
\nsquigarrowsenw
\nlcurvearrowright, \ncurvearrowright
\nlcurvearrowup
\nlcurvearrowleft
\nlcurvearrowdown
\nlcurvearrowne
\nlcurvearrownw
\nlcurvearrowsw
\nlcurvearrowse
\nrcurvearrowright
\nrcurvearrowup
\nrcurvearrowleft, \ncurvearrowleft
\nrcurvearrowdown
\nrcurvearrowne
\nrcurvearrownw

\nrcurvearrowsw
\nrcurvearrowse
\ncurvearrowleftright
\ncurvearrowupdown
\ncurvearrowrightleft
\ncurvearrowdownup
\ncurvearrownesw
\ncurvearrownwse
\ncurvearrowswne
\ncurvearrowsenw
\nleftrightline, \nrelbar
\nupdownline, \ndivides, \nmid
\nneswline, \ndiagup
\nnwseline, \ndiagdown
\nLeftrightline, \nRelbar
\nUpdownline, \nparallel
\nNeswline
\nNwseline
\nrightvdash, \nvdash
\nupvdash, \nperp
\nleftvdash, \ndashv
\ndownvdash
\nnevdash
\nnwvdash
\nswvdash
\nsevdash
\nrightmodels, \nmodels, \nvDash
\nupmodels
\nleftmodels
\ndownmodels
\nnemodels
\nnwmodels
\nswmodels
\nsemodels
\nrightVdash, \nVdash
\nupVdash
\nleftVdash
\ndownVdash
\nneVdash
\nnwVdash
\nswVdash
\nseVdash
\nrightModels, \nVDash
\nupModels
\nleftModels
\ndownModels
\nneModels
\nnwModels
\nswModels
\nseModels
\nrcirclearrowright
\nrcirclearrowup, \ncirclearrowleft
\nrcirclearrowleft
\nrcirclearrowdown
\nlcirclearrowright
\nlcirclearrowup, \ncirclearrowright
\nlcirclearrowleft
\nlcirclearrowdown
\nRrightarrow
\nLleftarrow

Binary operators and letters

\cdot, \cdotp
\hdotdot
:, \vdotdot, \colon
\udotdot
\ddotdot
\hdots, \cdots
\vdots
\udots
\ddots
\righttherefore
\uptherefore, \therefore
\lefttherefore
\downtherefore, \because
\diamonddots
\squaredots
\fivedots
-, \minus
\medvert, \shortmid
\medslash
\medbackslash, \setminus, \smallsetminus
+, \plus
\times
\pm
\mp
\dotminus
\dotmedvert
\minusdot

⋮	\medvertdot
÷	\div
⁒	\slashdiv
⫶	\vertdiv
⧵	\backslashdiv
¬	\neg, \lnot, \minushookdown
⌐	\backneg, \hookdownminus
⨲	\dtimes
⋊	\rtimes
⨱	\utimes
⋉	\ltimes
⋈	\bowtie, \Join
⧖	\vertbowtie
⤚	\rightY
⅄	\upY
⤙	\leftY
Y	\downY
∧	\wedge, \land
∨	\vee, \lor
⟑	\wedgedot
⟇	\veedot
⩕	\doublewedge
⩖	\doublevee
⋏	\curlywedge
⋎	\curlyvee
⋏	\curlywedgedot
⋎	\curlyveedot
⩕	\doublecurlywedge
⩖	\doublecurlyvee
∪	\cup
∩	\cap
⋓	\doublecup, \Cup
⋒	\doublecap, \Cap
⊍	\cupdot
⩀	\capdot
⊎	\cupplus, \uplus
⩃	\capplus
⊔	\sqcup
⊓	\sqcap
⩏	\doublesqcup
⩎	\doublesqcap
⊔	\sqcupdot
⊓	\sqcapdot
⊔	\sqcupplus
⊓	\sqcapplus
▹	\smalltriangleright
▵	\smalltriangleup
◃	\smalltriangleleft
▿	\smalltriangledown
▸	\filledtriangleright, \blacktriangleright
▴	\filledtriangleup
◂	\filledtriangleleft, \blacktriangleleft
▾	\filledtriangledown
▷	\medtriangleright, \triangleright
△	\medtriangleup, \triangle, \vartriangle, \bigtriangleup
◁	\medtriangleleft, \triangleleft
▽	\medtriangledown, \bigtriangledown, \triangledown
▷	\largetriangleright
△	\largetriangleup
◁	\largetriangleleft
▽	\largetriangledown
∘	\circ
∙	\bullet
○	\medcircle
◯	\largecircle, \bigcirc
⊖	\ominus, \circleddash
⦶	\overt
⊘	\oslash
⦸	\obackslash
⊕	\oplus
⊗	\otimes
⊙	\odot
⊚	\ocirc, \circledcirc
⟁	\otriangle
⊛	\oast, \circledast
⍟	\ostar
⌀	\diameter, \emptyset, \varnothing
▫	\smallsquare
▪	\filledsquare
□	\medsquare, \square, \Box
□	\largesquare
⋄	\smalldiamond, \diamond
◆	\filleddiamond
◇	\meddiamond, \Diamond
◇	\largediamond
⊟	\boxminus
◫	\boxvert
⧄	\boxslash
⧅	\boxbackslash
⊞	\boxplus
⊠	\boxtimes

$\boxdot$	\boxdot
$\boxbox$	\boxbox
$\diamondminus$	\diamondminus
$\diamondvert$	\diamondvert
$\diamondslash$	\diamondslash
$\diamondbackslash$	\diamondbackslash
$\diamondplus$	\diamondplus
$\diamondtimes$	\diamondtimes
$\diamonddot$	\diamonddot
$\diamonddiamond$	\diamonddiamond
$\smallstar$	\smallstar
$\filledstar$	\filledstar
$\medstar$	\medstar
$\largestar$	\largestar
$\pentagram$	\pentagram
$\largepentagram$	\largepentagram
$\thinstar$	\thinstar, \star
$\ast$	*, \ast
$\hbipropto$	\hbipropto
$\neswbipropto$	\neswbipropto
$\vbipropto$	\vbipropto
$\nwsebipropto$	\nwsebipropto
$\leftpropto$	\leftpropto, \propto, \varpropto
$\downpropto$	\downpropto
$\rightpropto$	\rightpropto
$\uppropto$	\uppropto
$\hcrossing$	\hcrossing
$\neswcrossing$	\neswcrossing
$\vcrossing$	\vcrossing
$\nwsecrossing$	\nwsecrossing
$\between$	\between
$\separated$	\separated
$\bot$	\bot
$\top$	\top, \intercal
$\wreath$	\wreath, \wr
$\angle$	\angle
$\measuredangle$	\measuredangle
$\sphericalangle$	\sphericalangle
$\prime$	\prime
$\backprime$	\backprime
$\smallprod$	\smallprod
$\amalg$	\amalg
$\checkmark$	\checkmark
$\lightning$	\lightning
$\diamondsuit$	\diamondsuit
$\heartsuit$	\heartsuit
$\spadesuit$	\spadesuit
$\clubsuit$	\clubsuit
$\forall$	\forall
$\exists$	\exists
$\nexists$	\nexists
∇	\nabla
∞	\infty
$\smallint$	\smallint
$\flat$	\flat
$\natural$	\natural
$\sharp$	\sharp
$\aleph$	\aleph
$\beth$	\beth
$\gimel$	\gimel
$\daleth$	\daleth
$\wp$	\wp
$\powerset$	\powerset
$\invneg$	\invneg, \minushookup
$\invbackneg$	\invbackneg, \hookupminus
$\lefthalfcup$	\lefthalfcup
$\righthalfcup$	\righthalfcup
$\lefthalfcap$	\lefthalfcap
$\righthalfcap$	\righthalfcap
$\closedsucc$	\closedsucc
$\closedcurlywedge$	\closedcurlywedge
$\closedprec$	\closedprec
$\closedcurlyvee$	\closedcurlyvee
$\rightslice$	\rightslice
$\upslice$	\upslice
$\leftslice$	\leftslice
$\downslice$	\downslice
$\smalllozenge$	\smalllozenge
$\filledlozenge$	\filledlozenge
$\medlozenge$	\medlozenge, \lozenge
$\filledmedlozenge$	\filledmedlozenge, \blacklozenge
$\largelozenge$	\largelozenge
$\filledmedtriangleright$	\filledmedtriangleright
$\filledmedtriangleup$	\filledmedtriangleup, \blacktriangle
$\filledmedtriangleleft$	\filledmedtriangleleft
$\filledmedtriangledown$	\filledmedtriangledown, \blacktriangledown
$\filledmedsquare$	\filledmedsquare, \blacksquare
$\filledlargestar$	\filledlargestar, \bigstar
$\medstarofdavid$	\medstarofdavid
$\largestarofdavid$	\largestarofdavid
$\maltese$	\maltese
$\leftthreetimes$	\leftthreetimes
$\rightthreetimes$	\rightthreetimes
$\nshortmid$	\nshortmid
$\shortparallel$	\shortparallel
$\nshortparallel$	\nshortparallel

Relations

$=$	=, \equal
$\equiv$	\equiv
$\sim$	\sim
$\backsim$	\backsim
$\approx$	\approx
$\backapprox$	\backapprox
$\triplesim$	\triplesim
$\backtriplesim$	\backtriplesim
$\simeq$	\simeq
$\backsimeq$	\backsimeq
$\eqsim$	\eqsim
$\backeqsim$	\backeqsim
$\cong$	\cong
$\backcong$	\backcong
$\approxeq$	\approxeq
$\backapproxeq$	\backapproxeq
$\bumpeq$	\bumpeq
$\eqbump$	\eqbump
$\Bumpeq$	\Bumpeq
$\doteq$	\doteq
$\eqdot$	\eqdot
$\Doteq$	\Doteq, \doteqdot
$\fallingdotseq$	\fallingdotseq
$\risingdotseq$	\risingdotseq
$\smile$	\smile, \smallsmile
$\frown$	\frown, \smallfrown
$\doublesmile$	\doublesmile
$\doublefrown$	\doublefrown
$\triplesmile$	\triplesmile
$\triplefrown$	\triplefrown
$\smilefrown$	\smilefrown, \asymp
$\frownsmile$	\frownsmile
$\smileeq$	\smileeq
$\frowneq$	\frowneq
$\eqsmile$	\eqsmile
$\eqfrown$	\eqfrown
$\doublesmileeq$	\doublesmileeq
$\doublefrowneq$	\doublefrowneq
$\smileeqfrown$	\smileeqfrown
$\frowneqsmile$	\frowneqsmile
$\smilefrowneq$	\smilefrowneq
$\frownsmileeq$	\frownsmileeq
$\sqsmile$	\sqsmile
$\sqfrown$	\sqfrown
$\sqdoublesmile$	\sqdoublesmile
$\sqdoublefrown$	\sqdoublefrown
$\sqtriplesmile$	\sqtriplesmile
$\sqtriplefrown$	\sqtriplefrown
$\sqsmilefrown$	\sqsmilefrown
$\sqfrownsmile$	\sqfrownsmile
$\sqsmileeq$	\sqsmileeq
$\sqfrowneq$	\sqfrowneq
$\sqeqsmile$	\sqeqsmile
$\sqeqfrown$	\sqeqfrown
$\sqdoublesmileeq$	\sqdoublesmileeq
$\sqdoublefrowneq$	\sqdoublefrowneq
$\sqsmileeqfrown$	\sqsmileeqfrown
$\sqfrowneqsmile$	\sqfrowneqsmile
$\eqcirc$	\eqcirc
$\circeq$	\circeq
$\triangleeq$	\triangleeq, \triangleq
$\hateq$	\hateq
$\in$	\in
$\owns$	\owns, \ni
$<$	<, \less
$>$	>, \gtr
$\leq$	\leq, \le
$\geq$	\geq, \ge
$\leqslant$	\leqslant
$\geqslant$	\geqslant
$\leqq$	\leqq
$\geqq$	\geqq
$\lessgtr$	\lessgtr
$\gtrless$	\gtrless
$\lesseqgtr$	\lesseqgtr
$\gtreqless$	\gtreqless
$\lesseqqgtr$	\lesseqqgtr
$\gtreqqless$	\gtreqqless
$\lesseqgtrslant$	\lesseqgtrslant
$\gtreqlessslant$	\gtreqlessslant
$\ll$	\ll
$\gg$	\gg
$\lll$	\lll, \llless
$\ggg$	\ggg, \gggtr
$\lessclosed$	\lessclosed, \lhd, \vartriangleleft
$\gtrclosed$	\gtrclosed, \rhd, \vartriangleright
$\leqclosed$	\leqclosed, \unlhd, \trianglelefteq
$\geqclosed$	\geqclosed, \unrhd, \trianglerighteq
$\sqsubset$	\sqsubset
$\sqsupset$	\sqsupset
$\sqsubseteq$	\sqsubseteq

$\sqsupseteq$	\sqsupseteq
$\sqsubseteqq$	\sqsubseteqq
$\sqsupseteqq$	\sqsupseteqq
$\Sqsubset$	\Sqsubset
$\Sqsupset$	\Sqsupset
$\subset$	\subset
$\supset$	\supset
$\subseteq$	\subseteq
$\supseteq$	\supseteq
$\subseteqq$	\subseteqq
$\supseteqq$	\supseteqq
$\Subset$	\Subset
$\Supset$	\Supset
$\prec$	\prec
$\succ$	\succ
$\preceq$	\preceq
$\succeq$	\succeq
$\preccurlyeq$	\preccurlyeq
$\succcurlyeq$	\succcurlyeq
$\precsim$	\precsim
$\succsim$	\succsim
$\precapprox$	\precapprox
$\succapprox$	\succapprox
$\lessdot$	\lessdot
$\gtrdot$	\gtrdot
$\leqdot$	\leqdot
$\geqdot$	\geqdot
$\leqslantdot$	\leqslantdot
$\geqslantdot$	\geqslantdot
$\closedequal$	\closedequal
$\equalclosed$	\equalclosed
$\equivclosed$	\equivclosed
$\lesssim$	\lesssim
$\gtrsim$	\gtrsim
$\lessapprox$	\lessapprox
$\gtrapprox$	\gtrapprox
$\eqslantless$	\eqslantless
$\eqslantgtr$	\eqslantgtr
$\curlyeqprec$	\curlyeqprec
$\curlyeqsucc$	\curlyeqsucc
$\neq$	\nequal, \neq, \ne
$\nequiv$	\nequiv
$\nsim$	\nsim
$\nbacksim$	\nbacksim
$\napprox$	\napprox
$\nbackapprox$	\nbackapprox
$\ntriplesim$	\ntriplesim
$\nbacktriplesim$	\nbacktriplesim
$\nsimeq$	\nsimeq
$\nbacksimeq$	\nbacksimeq
$\neqsim$	\neqsim
$\nbackeqsim$	\nbackeqsim
$\ncong$	\ncong
$\nbackcong$	\nbackcong
$\napproxeq$	\napproxeq
$\nbackapproxeq$	\nbackapproxeq
$\nbumpeq$	\nbumpeq
$\neqbump$	\neqbump
$\nBumpeq$	\nBumpeq
$\ndoteq$	\ndoteq
$\neqdot$	\neqdot
$\nDoteq$	\nDoteq
$\nfallingdotseq$	\nfallingdotseq
$\nrisingdotseq$	\nrisingdotseq
$\nsmile$	\nsmile
$\nfrown$	\nfrown
$\ndoublesmile$	\ndoublesmile
$\ndoublefrown$	\ndoublefrown
$\ntriplesmile$	\ntriplesmile
$\ntriplefrown$	\ntriplefrown
$\nsmilefrown$	\nsmilefrown, \nasymp
$\nfrownsmile$	\nfrownsmile
$\nsmileeq$	\nsmileeq
$\nfrowneq$	\nfrowneq
$\neqsmile$	\neqsmile
$\neqfrown$	\neqfrown
$\ndoublesmileeq$	\ndoublesmileeq
$\ndoublefrowneq$	\ndoublefrowneq
$\nsmileeqfrown$	\nsmileeqfrown
$\nfrowneqsmile$	\nfrowneqsmile
$\nsmilefrowneq$	\nsmilefrowneq
$\nfrownsmileeq$	\nfrownsmileeq
$\nsqsmile$	\nsqsmile
$\nsqfrown$	\nsqfrown
$\nsqdoublesmile$	\nsqdoublesmile
$\nsqdoublefrown$	\nsqdoublefrown
$\nsqtriplesmile$	\nsqtriplesmile
$\nsqtriplefrown$	\nsqtriplefrown
$\nsqsmilefrown$	\nsqsmilefrown
$\nsqfrownsmile$	\nsqfrownsmile
$\nsqsmileeq$	\nsqsmileeq
$\nsqfrowneq$	\nsqfrowneq
$\nsqeqsmile$	\nsqeqsmile
$\nsqeqfrown$	\nsqeqfrown
$\nsqdoublesmileeq$	\nsqdoublesmileeq
$\nsqdoublefrowneq$	\nsqdoublefrowneq
$\nsqsmileeqfrown$	\nsqsmileeqfrown
$\nsqfrowneqsmile$	\nsqfrowneqsmile
$\neqcirc$	\neqcirc
$\ncirceq$	\ncirceq

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

Operators

$\bigplus$	$\displaystyle\bigplus$	\bigplus
$\bigtimes$	$\displaystyle\bigtimes$	\bigtimes
$\bigwedge$	$\displaystyle\bigwedge$	\bigwedge
$\bigvee$	$\displaystyle\bigvee$	\bigvee
$\bigwedgedot$	$\displaystyle\bigwedgedot$	\bigwedgedot
$\bigveedot$	$\displaystyle\bigveedot$	\bigveedot
$\bigdoublewedge$	$\displaystyle\bigdoublewedge$	\bigdoublewedge
$\bigdoublevee$	$\displaystyle\bigdoublevee$	\bigdoublevee
$\bigcurlywedge$	$\displaystyle\bigcurlywedge$	\bigcurlywedge
$\bigcurlyvee$	$\displaystyle\bigcurlyvee$	\bigcurlyvee
$\bigcurlywedgedot$	$\displaystyle\bigcurlywedgedot$	\bigcurlywedgedot
$\bigcurlyveedot$	$\displaystyle\bigcurlyveedot$	\bigcurlyveedot
$\bigdoublecurlywedge$	$\displaystyle\bigdoublecurlywedge$	\bigdoublecurlywedge
$\bigdoublecurlyvee$	$\displaystyle\bigdoublecurlyvee$	\bigdoublecurlyvee
$\bigcap$	$\displaystyle\bigcap$	\bigcap
$\bigcup$	$\displaystyle\bigcup$	\bigcup
$\bigcapdot$	$\displaystyle\bigcapdot$	\bigcapdot
$\bigcupdot$	$\displaystyle\bigcupdot$	\bigcupdot
$\bigcapplus$	$\displaystyle\bigcapplus$	\bigcapplus, \biguplus
$\bigcupplus$	$\displaystyle\bigcupplus$	\bigcupplus
$\bigsqcap$	$\displaystyle\bigsqcap$	\bigsqcap
$\bigsqcup$	$\displaystyle\bigsqcup$	\bigsqcup
$\bigsqcapdot$	$\displaystyle\bigsqcapdot$	\bigsqcapdot
$\bigsqcupdot$	$\displaystyle\bigsqcupdot$	\bigsqcupdot
$\bigsqcapplus$	$\displaystyle\bigsqcapplus$	\bigsqcapplus
$\bigsqcupplus$	$\displaystyle\bigsqcupplus$	\bigsqcupplus
$\bigcircle$	$\displaystyle\bigcircle$	\bigcircle
$\bigominus$	$\displaystyle\bigominus$	\bigominus
$\bigovert$	$\displaystyle\bigovert$	\bigovert
$\bigoslash$	$\displaystyle\bigoslash$	\bigoslash
$\bigobackslash$	$\displaystyle\bigobackslash$	\bigobackslash
$\bigoplus$	$\displaystyle\bigoplus$	\bigoplus
$\bigotimes$	$\displaystyle\bigotimes$	\bigotimes
$\bigodot$	$\displaystyle\bigodot$	\bigodot
$\bigocirc$	$\displaystyle\bigocirc$	\bigocirc
$\bigotriangle$	$\displaystyle\bigotriangle$	\bigotriangle
$\bigoast$	$\displaystyle\bigoast$	\bigoast
$\bigostar$	$\displaystyle\bigostar$	\bigostar
$\prod$	$\displaystyle\prod$	\prod
$\coprod$	$\displaystyle\coprod$	\coprod
$\sum$	$\displaystyle\sum$	\sum
$\int$	$\displaystyle\int$	\int
$\iint$	$\displaystyle\iint$	\iint
$\iiint$	$\displaystyle\iiint$	\iiint
$\iiiint$	$\displaystyle\iiiint$	\iiiint
$\idotsint$	$\displaystyle\idotsint$	\idotsint
$\landupint$	$\displaystyle\landupint$	\landupint
$\landdownint$	$\displaystyle\landdownint$	\landdownint
$\strokedint$	$\displaystyle\strokedint$	\strokedint
$\oint$	$\displaystyle\oint$	\oint
$\oiint$	$\displaystyle\oiint$	\oiint
$\rcirclerightint$	$\displaystyle\rcirclerightint$	\rcirclerightint
$\lcirclerightint$	$\displaystyle\lcirclerightint$	\lcirclerightint
$\rcircleleftint$	$\displaystyle\rcircleleftint$	\rcircleleftint
$\lcircleleftint$	$\displaystyle\lcircleleftint$	\lcircleleftint
$\sumint$	$\displaystyle\sumint$	\sumint
$\complement$	$\displaystyle\complement$	\complement

Braces and accents

$($ $\big($ $\Big($ $\bigg($ $\Bigg($	(
$)$ $\big)$ $\Big)$ $\bigg)$ $\Bigg)$	)
$[$ $\big[$ $\Big[$ $\bigg[$ $\Bigg[$	[
$]$ $\big]$ $\Big]$ $\bigg]$ $\Bigg]$	]
$\{$ $\big\{$ $\Big\{$ $\bigg\{$ $\Bigg\{$	\lbrace, \{
$\}$ $\big\}$ $\Big\}$ $\bigg\}$ $\Bigg\}$	\rbrace, \}
$\langle$ $\big\langle$ $\Big\langle$ $\bigg\langle$ $\Bigg\langle$	\langle
$\rangle$ $\big\rangle$ $\Big\rangle$ $\bigg\rangle$ $\Bigg\rangle$	\rangle
$\langlebar$ $\big\langlebar$ $\Big\langlebar$ $\bigg\langlebar$ $\Bigg\langlebar$	\langlebar
$\ranglebar$ $\big\ranglebar$ $\Big\ranglebar$ $\bigg\ranglebar$ $\Bigg\ranglebar$	\ranglebar

$\llangle$	\llangle
$\rrangle$	\rrangle
$\lfloor$	\lfloor
$\rfloor$	\rfloor
$\lceil$	\lceil
$\rceil$	\rceil
$\ulcorner$	\ulcorner
$\urcorner$	\urcorner
$\llcorner$	\llcorner
$\lrcorner$	\lrcorner
$\ullcorner$	\ullcorner
$\ulrcorner$	\ulrcorner
$\lsem$	\lsem
$\rsem$	\rsem
$/$	/
$\backslash$	\backslash
$\vert$	|, \vert
$\mvert$	\mvert, \mid
$\lvert$	\lvert
$\rvert$	\rvert
$\Vert$	\Vert, \\|
$\mVert$	\mVert
$\lVert$	\lVert
$\rVert$	\rVert
$\arrowvert$	\arrowvert
$\Arrowvert$	\Arrowvert
$\lwavy$	\lwavy
$\rwavy$	\rwavy
$\lWavy$	\lWavy
$\rWavy$	\rWavy
$\lgroup$	\lgroup
$\rgroup$	\rgroup
$\lmoustache$	\lmoustache
$\rmoustache$	\rmoustache
$\bracevert$	\bracevert
$\uparrow$	\uparrow
$\downarrow$	\downarrow
$\updownarrow$	\updownarrow

$\Uparrow$	`\Uparrow`
$\Downarrow$	`\Downarrow`
$\Updownarrow$	`\Updownarrow`

	`\downbrace`
	`\downbraceg`
	`\downbracegg`
	`\downbraceggg`
	`\downbracegggg`
	`\upbrace`
	`\upbraceg`
	`\upbracegg`
	`\upbraceggg`
	`\upbracegggg`
	`\braceld`
	`\bracelu`
	`\bracerd`
	`\braceru`
	`\bracemd`
	`\bracemu`
	`\bracemid`

$\overbrace{abc}$	`\overbrace`
$\underbrace{abc}$	`\underbrace`
$\overgroup{abc}$	`\overgroup`
$\undergroup{abc}$	`\undergroup`
$\overlinesegment{abc}$	`\overlinesegment`
$\overleftharpoon{abc}$	`\overleftharpoon`
$\overrightharpoon{abc}$	`\overrightharpoon`
$\underlinesegment{abc}$	`\underlinesegment`

$\sqrt{b}$	`\sqrt`
$\surd$	`\surd`
$\widehat{abc}$	`\widehat`
$\widetilde{abc}$	`\widetilde`
$\wideparen{abc}$	`\wideparen`
$\vec{b}$	`\vec`
$\middlebar{b}$	`\middlebar`
$\middleslash{b}$	`\middleslash`
$\strokethrough{b}$	`\strokethrough`

Faked symbols

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

$:=$	`\coloneq`
†	`\dagger`
‡	`\ddagger`
¶	`\mathparagraph`
§	`\mathsection`
\$	`\mathdollar`
£	`\mathsterling`
¥	`\yen`
$\Re$	`\Re`
$\Im$	`\Im`
$\hbar$	`\hbar`
$\hslash$	`\hslash`
®	`\circledR`
Ⓢ	`\circledS`
$\dotplus$	`\dotplus`
$\thicksim$	`\thicksim`
$\thickapprox$	`\thickapprox`
$\veebar$	`\veebar`
$\barwedge$	`\barwedge`
$\doublebarwedge$	`\doublebarwedge`
$\centerdot$	`\centerdot`
$\divideontimes$	`\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

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

Options to select the calligraphic font.

```
\DeclareOption{mnsy}{%
  \def\Mn@Load@Cal@Font{%
    \DeclareMathAlphabet\mathcal  {OMS}{MnSymbolS}{m}{n}%
    \SetMathAlphabet\mathcal{bold}{OMS}{MnSymbolS}{b}{n}}}
\DeclareOption{cmsy}{%
  \def\Mn@Load@Cal@Font{%
    \DeclareMathAlphabet\mathcal  {OMS}{cmsy}{m}{n}%
    \SetMathAlphabet\mathcal{bold}{OMS}{cmsy}{b}{n}}}
\DeclareOption{abx}{%
  \def\Mn@Load@Cal@Font{%
    \DeclareFontFamily{OT1}{mathc}{}%
    \DeclareFontShape{OT1}{mathc}{m}{n}{ <-> mathcm10 }{}%
    \DeclareFontShape{OT1}{mathc}{b}{n}{ <-> mathcb10 }{}%
    \DeclareMathAlphabet\mathcal{OT1}{mathc}{m}{n}%
    \SetMathAlphabet\mathcal{bold}{OT1}{mathc}{b}{n}}}
```

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

```
\newcommand*\Mn@Fake@Missing{
  \@ifpackageloaded{textcomp}{}{\RequirePackage{textcomp}}
  \@ifundefined{mathfrak}{\RequirePackage{eufrak}}{}

  \DeclareRobustCommand{\dagger}{\Mn@Text@With@MathVersion{\textdagger}}
  \DeclareRobustCommand{\ddagger}{\Mn@Text@With@MathVersion{\textdaggerdbl}}
  \DeclareRobustCommand{\mathparagraph}{\Mn@Text@With@MathVersion{\textparagraph}}
  \DeclareRobustCommand{\mathsection}{\Mn@Text@With@MathVersion{\textsection}}
  \DeclareRobustCommand{\mathdollar}{\Mn@Text@With@MathVersion{\textdollar}}
  \DeclareRobustCommand{\mathsterling}{\Mn@Text@With@MathVersion{\textsterling}}
  \DeclareRobustCommand{\yen}{\Mn@Text@With@MathVersion{\textyen}}
  \DeclareRobustCommand{\circledR}{\Mn@Text@With@MathVersion{\textcircled{%
                                    \check@mathfonts\fontsize\sf@size\z@\math@fontsfalse\selectfont R}}}
  \DeclareRobustCommand{\circledS}{\Mn@Text@With@MathVersion{\textcircled{%
                                    \check@mathfonts\fontsize\sf@size\z@\math@fontsfalse\selectfont S}}}
  \DeclareRobustCommand{\Re}{\mathfrak{R}}
  \DeclareRobustCommand{\Im}{\mathfrak{I}}
  \DeclareRobustCommand{\dotplus}{\dot{+}}
  \DeclareRobustCommand{\thicksim}{\mathrel{\text{\boldmath$\m@th\sim$}}}
  \DeclareRobustCommand{\thickapprox}{\mathrel{\text{\boldmath$\m@th\approx$}}}
  \let\hbar\undefined
  \let\hslash\undefined
  % Hack for backward compatibility with the MinionPro package:
  % If the package is loaded then we do not need to define \hbar.
  \@ifpackageloaded{MinionPro}{}{%
```

```
    \DeclareRobustCommand{\hbar}{\middlebar h}}
  \DeclareRobustCommand{\hslash}{\middleslash h}

  \let\lneq\nleq
  \let\gneq\ngeq
  \let\precneqq\npreceq
  \let\succneqq\nsucceq
  \DeclareRobustCommand\veebar{\mathbin{\underline{\vee}}}
  \DeclareRobustCommand\barwedge{\mathbin{\overline{\wedge}}}
  \DeclareRobustCommand\doublebarwedge{\mathbin{\overline{\overline{\wedge}}}}
  \DeclareRobustCommand\centerdot{\mathbin{\rule{0.15em}{0.15em}}}
  \DeclareRobustCommand\divideontimes{\mathbin{\ooalign{$\div$\crcr$\times$}}}
```

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.

```
  \let\eth\undefined
  \let\digamma\undefined
  \let\varkappa\undefined
  \let\backepsilon\undefined

  \let\mho\undefined
  \let\Finv\undefined
  \let\Game\undefined
  \let\Bbbk\undefined
```

(b) Unneeded partial symbols.

```
  \let\mapstochar\undefined
  \let\lhook\undefined
  \let\rhook\undefined
}
\DeclareOption{retainmissing}{\let\Mn@Fake@Missing\relax}

\ExecuteOptions{mnsy}
\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.

```
\@ifpackageloaded{amsmath}{}{\RequirePackage{amsmath}}
\Mn@Fake@Missing
```

Short hands to simplify the definitions below.

```
\def\Set@Mn@Sym#1{\@tempcnta #1\relax}
\def\Next@Mn@Sym{\advance\@tempcnta 1\relax}
\def\Prev@Mn@Sym{\advance\@tempcnta-1\relax}

\def\@Decl@Mn@Sym#1#2#3#4{\DeclareMathSymbol{#2}{#3}{#4}{#1}}
\def\Decl@Mn@Sym#1#2#3{%
  \if\relax\noexpand#1%
    \let#1\undefined
  \fi
  \expandafter\@Decl@Mn@Sym\expandafter{\the\@tempcnta}{#1}{#3}{#2}%
  \Next@Mn@Sym}
\def\Decl@Mn@Alias#1#2#3{\Prev@Mn@Sym\Decl@Mn@Sym{#1}{#2}{#3}}
\let\Decl@Mn@Char\Decl@Mn@Sym
\def\Decl@Mn@Op#1#2#3{\def#1{\DOTSB#3\slimits@}}
```

```
\def\Decl@Mn@Int#1#2#3{\def#1{\DOTSI#3\ilimits@}}

\def\Decl@Mn@Delim#1#2#3#4{%
  \if\relax\noexpand#1%
    \let#1\undefined
  \fi
  \DeclareMathDelimiter{#1}{#2}{#3}{#4}{#3}{#4}}
\def\Decl@Mn@Open#1#2#3{\Decl@Mn@Delim{#1}{\mathopen}{#2}{#3}}
\def\Decl@Mn@Close#1#2#3{\Decl@Mn@Delim{#1}{\mathclose}{#2}{#3}}
```

Font definitions.

```
\DeclareFontFamily{U}  {MnSymbolA}{}
\DeclareFontFamily{U}  {MnSymbolB}{}
\DeclareFontFamily{U}  {MnSymbolC}{}
\DeclareFontFamily{U}  {MnSymbolD}{}
\DeclareFontFamily{OMX}{MnSymbolE}{}
\DeclareFontFamily{U}  {MnSymbolF}{}
\DeclareFontFamily{OMS}{MnSymbolS}{\skewchar\font=0}
\DeclareSymbolFont{MnSyA}         {U}  {MnSymbolA}{m}{n}
\DeclareSymbolFont{MnSyB}         {U}  {MnSymbolB}{m}{n}
\DeclareSymbolFont{MnSyC}         {U}  {MnSymbolC}{m}{n}
\DeclareSymbolFont{MnSyD}         {U}  {MnSymbolD}{m}{n}
\DeclareSymbolFont{largesymbols}  {OMX}{MnSymbolE}{m}{n}
\DeclareSymbolFont{symbols}       {U}  {MnSymbolF}{m}{n}
\SetSymbolFont{MnSyA}       {bold}{U}  {MnSymbolA}{b}{n}
\SetSymbolFont{MnSyB}       {bold}{U}  {MnSymbolB}{b}{n}
\SetSymbolFont{MnSyC}       {bold}{U}  {MnSymbolC}{b}{n}
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\SetSymbolFont{largesymbols}{bold}{OMX}{MnSymbolE}{b}{n}
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  <10-12> MnSymbolA10
  <12->   MnSymbolA12}{}
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  <10-12> MnSymbolS-Bold10
  <12->   MnSymbolS-Bold12}{}

\Mn@Load@Cal@Font
```

A command to take math symbols from text fonts.

```
\def\Mn@Bold{bold}
\def\Mn@Text@With@MathVersion#1{
  \ifx\Mn@Bold\math@version
    \text{\bfseries#1}%
  \else
    \text{\mdseries#1}%
  \fi}
```

MnSymbolA: arrows.

```
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  \Decl@Mn@Alias\to                  {MnSyA}{\mathrel}
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\Decl@Mn@Char\leftarrow              {MnSyA}{\mathrel}
  \Decl@Mn@Alias\gets                {MnSyA}{\mathrel}
\Decl@Mn@Char\downarrow              {MnSyA}{\mathrel}
\Decl@Mn@Char\nearrow                {MnSyA}{\mathrel}
```

```
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\Decl@Mn@Char\Downarrow              {MnSyA}{\mathrel}
\Decl@Mn@Char\Nearrow                {MnSyA}{\mathrel}
\Decl@Mn@Char\Nwarrow                {MnSyA}{\mathrel}
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\Decl@Mn@Char\twoheaduparrow         {MnSyA}{\mathrel}
\Decl@Mn@Char\twoheadleftarrow       {MnSyA}{\mathrel}
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\Decl@Mn@Char\swmapsto               {MnSyA}{\mathrel}
\Decl@Mn@Char\semapsto               {MnSyA}{\mathrel}
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```

```
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```

```
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\Decl@Mn@Char\swVdash                {MnSyA}{\mathrel}
\Decl@Mn@Char\seVdash                {MnSyA}{\mathrel}
\Decl@Mn@Char\rightModels            {MnSyA}{\mathrel}
```

```
  \Decl@Mn@Alias\VDash               {MnSyA}{\mathrel}
\Decl@Mn@Char\upModels               {MnSyA}{\mathrel}
\Decl@Mn@Char\leftModels             {MnSyA}{\mathrel}
\Decl@Mn@Char\downModels             {MnSyA}{\mathrel}
\Decl@Mn@Char\neModels               {MnSyA}{\mathrel}
\Decl@Mn@Char\nwModels               {MnSyA}{\mathrel}
\Decl@Mn@Char\swModels               {MnSyA}{\mathrel}
\Decl@Mn@Char\seModels               {MnSyA}{\mathrel}
\Decl@Mn@Char\rcirclearrowright      {MnSyA}{\mathrel}
\Decl@Mn@Char\rcirclearrowup         {MnSyA}{\mathrel}
  \Decl@Mn@Alias\circlearrowleft     {MnSyA}{\mathrel}
\Decl@Mn@Char\rcirclearrowleft       {MnSyA}{\mathrel}
\Decl@Mn@Char\rcirclearrowdown       {MnSyA}{\mathrel}
\Decl@Mn@Char\lcirclearrowright      {MnSyA}{\mathrel}
\Decl@Mn@Char\lcirclearrowup         {MnSyA}{\mathrel}
  \Decl@Mn@Alias\circlearrowright    {MnSyA}{\mathrel}
\Decl@Mn@Char\lcirclearrowleft       {MnSyA}{\mathrel}
\Decl@Mn@Char\lcirclearrowdown       {MnSyA}{\mathrel}

\let\joinrel\undefined
\DeclareRobustCommand\joinrel{\mathrel{\mkern-3.1mu}}
\DeclareRobustCommand\longrightarrow{\DOTSB\leftrightline\joinrel\rightarrow}
\DeclareRobustCommand\longleftarrow{\DOTSB\leftarrow\joinrel\leftrightline}
\DeclareRobustCommand\longleftrightarrow{\DOTSB\leftarrow\joinrel\rightarrow}
\DeclareRobustCommand\Longrightarrow{\DOTSB\Leftrightline\joinrel\Rightarrow}
\DeclareRobustCommand\Longleftarrow{\DOTSB\Leftarrow\joinrel\Leftrightline}
\DeclareRobustCommand\Longleftrightarrow{\DOTSB\Leftarrow\joinrel\Rightarrow}
\DeclareRobustCommand\longmapsto{\DOTSB\leftfootline\joinrel\rightarrow}
\DeclareRobustCommand\emptyfilledspoon{\DOTSB\leftspoon\mkern-14mu\rightfilledspoon}
\DeclareRobustCommand\filledemptyspoon{\DOTSB\leftfilledspoon\mkern-14mu\rightspoon}
\DeclareRobustCommand\largeemptyfilledspoon{\DOTSB\mathrel{\circ\mkern-8mu\relbar\mkern-8mu\bullet}}
\DeclareRobustCommand\largefilledemptyspoon{\DOTSB\mathrel{\bullet\mkern-8mu\relbar\mkern-8mu\circ}}
```

MnSymbolB: stroked arrows.

```
\Set@Mn@Sym{0}
\Decl@Mn@Char\nrightarrow            {MnSyB}{\mathrel}
  \Decl@Mn@Alias\nto                 {MnSyB}{\mathrel}
\Decl@Mn@Char\nuparrow               {MnSyB}{\mathrel}
\Decl@Mn@Char\nleftarrow             {MnSyB}{\mathrel}
  \Decl@Mn@Alias\ngets               {MnSyB}{\mathrel}
\Decl@Mn@Char\ndownarrow             {MnSyB}{\mathrel}
\Decl@Mn@Char\nnearrow               {MnSyB}{\mathrel}
\Decl@Mn@Char\nnwarrow               {MnSyB}{\mathrel}
\Decl@Mn@Char\nswarrow               {MnSyB}{\mathrel}
\Decl@Mn@Char\nsearrow               {MnSyB}{\mathrel}
\Decl@Mn@Char\nRightarrow            {MnSyB}{\mathrel}
\Decl@Mn@Char\nUparrow               {MnSyB}{\mathrel}
\Decl@Mn@Char\nLeftarrow             {MnSyB}{\mathrel}
\Decl@Mn@Char\nDownarrow             {MnSyB}{\mathrel}
\Decl@Mn@Char\nNearrow               {MnSyB}{\mathrel}
\Decl@Mn@Char\nNwarrow               {MnSyB}{\mathrel}
\Decl@Mn@Char\nSwarrow               {MnSyB}{\mathrel}
\Decl@Mn@Char\nSearrow               {MnSyB}{\mathrel}
\Decl@Mn@Char\nleftrightarrow        {MnSyB}{\mathrel}
\Decl@Mn@Char\nupdownarrow           {MnSyB}{\mathrel}
```

```
\Decl@Mn@Char\nneswarrow            {MnSyB}{\mathrel}
\Decl@Mn@Char\nnwsearrow            {MnSyB}{\mathrel}
\Decl@Mn@Char\nLeftrightarrow       {MnSyB}{\mathrel}
\Decl@Mn@Char\nUpdownarrow          {MnSyB}{\mathrel}
\Decl@Mn@Char\nNeswarrow            {MnSyB}{\mathrel}
\Decl@Mn@Char\nNwsearrow            {MnSyB}{\mathrel}
\Decl@Mn@Char\ntwoheadrightarrow    {MnSyB}{\mathrel}
\Decl@Mn@Char\ntwoheaduparrow       {MnSyB}{\mathrel}
\Decl@Mn@Char\ntwoheadleftarrow     {MnSyB}{\mathrel}
\Decl@Mn@Char\ntwoheaddownarrow     {MnSyB}{\mathrel}
\Decl@Mn@Char\ntwoheadnearrow       {MnSyB}{\mathrel}
\Decl@Mn@Char\ntwoheadnwarrow       {MnSyB}{\mathrel}
\Decl@Mn@Char\ntwoheadswarrow       {MnSyB}{\mathrel}
\Decl@Mn@Char\ntwoheadsearrow       {MnSyB}{\mathrel}
\Decl@Mn@Char\nrightarrowtail       {MnSyB}{\mathrel}
\Decl@Mn@Char\nuparrowtail          {MnSyB}{\mathrel}
\Decl@Mn@Char\nleftarrowtail        {MnSyB}{\mathrel}
\Decl@Mn@Char\ndownarrowtail        {MnSyB}{\mathrel}
\Decl@Mn@Char\nnearrowtail          {MnSyB}{\mathrel}
\Decl@Mn@Char\nnwarrowtail          {MnSyB}{\mathrel}
\Decl@Mn@Char\nswarrowtail          {MnSyB}{\mathrel}
\Decl@Mn@Char\nsearrowtail          {MnSyB}{\mathrel}
\Decl@Mn@Char\nrightmapsto          {MnSyB}{\mathrel}
  \Decl@Mn@Alias\nmapsto            {MnSyB}{\mathrel}
\Decl@Mn@Char\nupmapsto             {MnSyB}{\mathrel}
\Decl@Mn@Char\nleftmapsto           {MnSyB}{\mathrel}
\Decl@Mn@Char\ndownmapsto           {MnSyB}{\mathrel}
\Decl@Mn@Char\nnemapsto             {MnSyB}{\mathrel}
\Decl@Mn@Char\nnwmapsto             {MnSyB}{\mathrel}
\Decl@Mn@Char\nswmapsto             {MnSyB}{\mathrel}
\Decl@Mn@Char\nsemapsto             {MnSyB}{\mathrel}
\Decl@Mn@Char\nlhookrightarrow      {MnSyB}{\mathrel}
  \Decl@Mn@Alias\nhookrightarrow    {MnSyB}{\mathrel}
\Decl@Mn@Char\nlhookuparrow         {MnSyB}{\mathrel}
\Decl@Mn@Char\nlhookleftarrow       {MnSyB}{\mathrel}
\Decl@Mn@Char\nlhookdownarrow       {MnSyB}{\mathrel}
\Decl@Mn@Char\nlhooknearrow         {MnSyB}{\mathrel}
\Decl@Mn@Char\nlhooknwarrow         {MnSyB}{\mathrel}
\Decl@Mn@Char\nlhookswarrow         {MnSyB}{\mathrel}
\Decl@Mn@Char\nlhooksearrow         {MnSyB}{\mathrel}
\Decl@Mn@Char\nrhookrightarrow      {MnSyB}{\mathrel}
\Decl@Mn@Char\nrhookuparrow         {MnSyB}{\mathrel}
\Decl@Mn@Char\nrhookleftarrow       {MnSyB}{\mathrel}
  \Decl@Mn@Alias\nhookleftarrow     {MnSyB}{\mathrel}
\Decl@Mn@Char\nrhookdownarrow       {MnSyB}{\mathrel}
\Decl@Mn@Char\nrhooknearrow         {MnSyB}{\mathrel}
\Decl@Mn@Char\nrhooknwarrow         {MnSyB}{\mathrel}
\Decl@Mn@Char\nrhookswarrow         {MnSyB}{\mathrel}
\Decl@Mn@Char\nrhooksearrow         {MnSyB}{\mathrel}
\Decl@Mn@Char\nrightharpoonccw      {MnSyB}{\mathrel}
  \Decl@Mn@Alias\nrightharpoonup    {MnSyB}{\mathrel}
\Decl@Mn@Char\nupharpoonccw         {MnSyB}{\mathrel}
  \Decl@Mn@Alias\nupharpoonleft     {MnSyB}{\mathrel}
\Decl@Mn@Char\nleftharpoonccw       {MnSyB}{\mathrel}
```

```
  \Decl@Mn@Alias\nleftharpoondown    {MnSyB}{\mathrel}
\Decl@Mn@Char\ndownharpoonccw        {MnSyB}{\mathrel}
  \Decl@Mn@Alias\ndownharpoonright   {MnSyB}{\mathrel}
\Decl@Mn@Char\nneharpoonccw          {MnSyB}{\mathrel}
\Decl@Mn@Char\nnwharpoonccw          {MnSyB}{\mathrel}
\Decl@Mn@Char\nswharpoonccw          {MnSyB}{\mathrel}
\Decl@Mn@Char\nseharpoonccw          {MnSyB}{\mathrel}
\Decl@Mn@Char\nrightharpooncw        {MnSyB}{\mathrel}
  \Decl@Mn@Alias\nrightharpoondown   {MnSyB}{\mathrel}
\Decl@Mn@Char\nupharpooncw           {MnSyB}{\mathrel}
  \Decl@Mn@Alias\nupharpoonright     {MnSyB}{\mathrel}
  \Decl@Mn@Alias\nrestriction        {MnSyB}{\mathrel}
\Decl@Mn@Char\nleftharpooncw         {MnSyB}{\mathrel}
  \Decl@Mn@Alias\nleftharpoonup      {MnSyB}{\mathrel}
\Decl@Mn@Char\ndownharpooncw         {MnSyB}{\mathrel}
  \Decl@Mn@Alias\ndownharpoonleft    {MnSyB}{\mathrel}
\Decl@Mn@Char\nneharpooncw           {MnSyB}{\mathrel}
\Decl@Mn@Char\nnwharpooncw           {MnSyB}{\mathrel}
\Decl@Mn@Char\nswharpooncw           {MnSyB}{\mathrel}
\Decl@Mn@Char\nseharpooncw           {MnSyB}{\mathrel}
\Decl@Mn@Char\nleftrightharpoonupdown{MnSyB}{\mathrel}
\Decl@Mn@Char\nupdownharpoonleftright{MnSyB}{\mathrel}
\Decl@Mn@Char\nneswharpoonnwse       {MnSyB}{\mathrel}
\Decl@Mn@Char\nnwseharpoonnesw       {MnSyB}{\mathrel}
\Decl@Mn@Char\nleftrightharpoondownup{MnSyB}{\mathrel}
\Decl@Mn@Char\nupdownharpoonrightleft{MnSyB}{\mathrel}
\Decl@Mn@Char\nneswharpoonsenw       {MnSyB}{\mathrel}
\Decl@Mn@Char\nnwseharpoonswne       {MnSyB}{\mathrel}
\Decl@Mn@Char\nrightleftharpoons     {MnSyB}{\mathrel}
\Decl@Mn@Char\nupdownharpoons        {MnSyB}{\mathrel}
\Decl@Mn@Char\nneswharpoons          {MnSyB}{\mathrel}
\Decl@Mn@Char\nsenwharpoons          {MnSyB}{\mathrel}
\Decl@Mn@Char\nleftrightharpoons     {MnSyB}{\mathrel}
\Decl@Mn@Char\ndownupharpoons        {MnSyB}{\mathrel}
\Decl@Mn@Char\nswneharpoons          {MnSyB}{\mathrel}
\Decl@Mn@Char\nnwseharpoons          {MnSyB}{\mathrel}
\Decl@Mn@Char\ndashedrightarrow      {MnSyB}{\mathrel}
  \Decl@Mn@Alias\ndashrightarrow     {MnSyB}{\mathrel}
  \Decl@Mn@Alias\ndasharrow          {MnSyB}{\mathrel}
\Decl@Mn@Char\ndasheduparrow         {MnSyB}{\mathrel}
\Decl@Mn@Char\ndashedleftarrow       {MnSyB}{\mathrel}
  \Decl@Mn@Alias\ndashleftarrow      {MnSyB}{\mathrel}
\Decl@Mn@Char\ndasheddownarrow       {MnSyB}{\mathrel}
\Decl@Mn@Char\ndashednearrow         {MnSyB}{\mathrel}
\Decl@Mn@Char\ndashednwarrow         {MnSyB}{\mathrel}
\Decl@Mn@Char\ndashedswarrow         {MnSyB}{\mathrel}
\Decl@Mn@Char\ndashedsearrow         {MnSyB}{\mathrel}
\Decl@Mn@Char\nrightspoon            {MnSyB}{\mathrel}
  \Decl@Mn@Alias\nmultimap           {MnSyB}{\mathrel}
\Decl@Mn@Char\nupspoon               {MnSyB}{\mathrel}
\Decl@Mn@Char\nleftspoon             {MnSyB}{\mathrel}
\Decl@Mn@Char\ndownspoon             {MnSyB}{\mathrel}
\Decl@Mn@Char\nnespoon               {MnSyB}{\mathrel}
\Decl@Mn@Char\nnwspoon               {MnSyB}{\mathrel}
```

```
\Decl@Mn@Char\nswspoon              {MnSyB}{\mathrel}
\Decl@Mn@Char\nsespoon              {MnSyB}{\mathrel}
\Decl@Mn@Char\nrightfilledspoon     {MnSyB}{\mathrel}
\Decl@Mn@Char\nupfilledspoon        {MnSyB}{\mathrel}
\Decl@Mn@Char\nleftfilledspoon      {MnSyB}{\mathrel}
\Decl@Mn@Char\ndownfilledspoon      {MnSyB}{\mathrel}
\Decl@Mn@Char\nnefilledspoon        {MnSyB}{\mathrel}
\Decl@Mn@Char\nnwfilledspoon        {MnSyB}{\mathrel}
\Decl@Mn@Char\nswfilledspoon        {MnSyB}{\mathrel}
\Decl@Mn@Char\nsefilledspoon        {MnSyB}{\mathrel}
\Decl@Mn@Char\nrightfootline        {MnSyB}{\mathrel}
\Decl@Mn@Char\nupfootline           {MnSyB}{\mathrel}
\Decl@Mn@Char\nleftfootline         {MnSyB}{\mathrel}
\Decl@Mn@Char\ndownfootline         {MnSyB}{\mathrel}
\Decl@Mn@Char\nnefootline           {MnSyB}{\mathrel}
\Decl@Mn@Char\nnwfootline           {MnSyB}{\mathrel}
\Decl@Mn@Char\nswfootline           {MnSyB}{\mathrel}
\Decl@Mn@Char\nsefootline           {MnSyB}{\mathrel}
\Decl@Mn@Char\nrightfree            {MnSyB}{\mathrel}
\Decl@Mn@Char\nupfree               {MnSyB}{\mathrel}
\Decl@Mn@Char\nleftfree             {MnSyB}{\mathrel}
\Decl@Mn@Char\ndownfree             {MnSyB}{\mathrel}
\Decl@Mn@Char\nnefree               {MnSyB}{\mathrel}
\Decl@Mn@Char\nnwfree               {MnSyB}{\mathrel}
\Decl@Mn@Char\nswfree               {MnSyB}{\mathrel}
\Decl@Mn@Char\nsefree               {MnSyB}{\mathrel}
\Decl@Mn@Char\nrightpitchfork       {MnSyB}{\mathrel}
\Decl@Mn@Char\nuppitchfork          {MnSyB}{\mathrel}
  \Decl@Mn@Alias\npitchfork         {MnSyB}{\mathrel}
\Decl@Mn@Char\nleftpitchfork        {MnSyB}{\mathrel}
\Decl@Mn@Char\ndownpitchfork        {MnSyB}{\mathrel}
\Decl@Mn@Char\nnepitchfork          {MnSyB}{\mathrel}
\Decl@Mn@Char\nnwpitchfork          {MnSyB}{\mathrel}
\Decl@Mn@Char\nswpitchfork          {MnSyB}{\mathrel}
\Decl@Mn@Char\nsepitchfork          {MnSyB}{\mathrel}
\Decl@Mn@Char\nrightrightarrows     {MnSyB}{\mathrel}
\Decl@Mn@Char\nupuparrows           {MnSyB}{\mathrel}
\Decl@Mn@Char\nleftleftarrows       {MnSyB}{\mathrel}
\Decl@Mn@Char\ndowndownarrows       {MnSyB}{\mathrel}
\Decl@Mn@Char\nnenearrows           {MnSyB}{\mathrel}
\Decl@Mn@Char\nnwnwarrows           {MnSyB}{\mathrel}
\Decl@Mn@Char\nswswarrows           {MnSyB}{\mathrel}
\Decl@Mn@Char\nsesearrows           {MnSyB}{\mathrel}
\Decl@Mn@Char\nrightleftarrows      {MnSyB}{\mathrel}
\Decl@Mn@Char\nupdownarrows         {MnSyB}{\mathrel}
\Decl@Mn@Char\nneswarrows           {MnSyB}{\mathrel}
\Decl@Mn@Char\nnwsearrows           {MnSyB}{\mathrel}
\Decl@Mn@Char\nleftrightarrows      {MnSyB}{\mathrel}
\Decl@Mn@Char\ndownuparrows         {MnSyB}{\mathrel}
\Decl@Mn@Char\nswnearrows           {MnSyB}{\mathrel}
\Decl@Mn@Char\nsenwarrows           {MnSyB}{\mathrel}
\Decl@Mn@Char\nrightlsquigarrow     {MnSyB}{\mathrel}
  \Decl@Mn@Alias\nleadsto           {MnSyB}{\mathrel}
  \Decl@Mn@Alias\nrightsquigarrow   {MnSyB}{\mathrel}
```

```
\Decl@Mn@Char\nuplsquigarrow         {MnSyB}{\mathrel}
\Decl@Mn@Char\nleftlsquigarrow       {MnSyB}{\mathrel}
\Decl@Mn@Char\ndownlsquigarrow       {MnSyB}{\mathrel}
\Decl@Mn@Char\nnelsquigarrow         {MnSyB}{\mathrel}
\Decl@Mn@Char\nnwlsquigarrow         {MnSyB}{\mathrel}
\Decl@Mn@Char\nswlsquigarrow         {MnSyB}{\mathrel}
\Decl@Mn@Char\nselsquigarrow         {MnSyB}{\mathrel}
\Decl@Mn@Char\nrightrsquigarrow      {MnSyB}{\mathrel}
\Decl@Mn@Char\nuprsquigarrow         {MnSyB}{\mathrel}
\Decl@Mn@Char\nleftrsquigarrow       {MnSyB}{\mathrel}
\Decl@Mn@Char\ndownrsquigarrow       {MnSyB}{\mathrel}
\Decl@Mn@Char\nnersquigarrow         {MnSyB}{\mathrel}
\Decl@Mn@Char\nnwrsquigarrow         {MnSyB}{\mathrel}
\Decl@Mn@Char\nswrsquigarrow         {MnSyB}{\mathrel}
\Decl@Mn@Char\nsersquigarrow         {MnSyB}{\mathrel}
\Decl@Mn@Char\nsquigarrowleftright   {MnSyB}{\mathrel}
  \Decl@Mn@Alias\nleftrightsquigarrow{MnSyB}{\mathrel}
\Decl@Mn@Char\nsquigarrowupdown      {MnSyB}{\mathrel}
\Decl@Mn@Char\nsquigarrowrightleft   {MnSyB}{\mathrel}
\Decl@Mn@Char\nsquigarrowdownup      {MnSyB}{\mathrel}
\Decl@Mn@Char\nsquigarrownesw        {MnSyB}{\mathrel}
\Decl@Mn@Char\nsquigarrownwse        {MnSyB}{\mathrel}
\Decl@Mn@Char\nsquigarrowswne        {MnSyB}{\mathrel}
\Decl@Mn@Char\nsquigarrowsenw        {MnSyB}{\mathrel}
\Decl@Mn@Char\nlcurvearrowright      {MnSyB}{\mathrel}
  \Decl@Mn@Alias\ncurvearrowright    {MnSyB}{\mathrel}
\Decl@Mn@Char\nlcurvearrowup         {MnSyB}{\mathrel}
\Decl@Mn@Char\nlcurvearrowleft       {MnSyB}{\mathrel}
\Decl@Mn@Char\nlcurvearrowdown       {MnSyB}{\mathrel}
\Decl@Mn@Char\nlcurvearrowne         {MnSyB}{\mathrel}
\Decl@Mn@Char\nlcurvearrownw         {MnSyB}{\mathrel}
\Decl@Mn@Char\nlcurvearrowsw         {MnSyB}{\mathrel}
\Decl@Mn@Char\nlcurvearrowse         {MnSyB}{\mathrel}
\Decl@Mn@Char\nrcurvearrowright      {MnSyB}{\mathrel}
\Decl@Mn@Char\nrcurvearrowup         {MnSyB}{\mathrel}
\Decl@Mn@Char\nrcurvearrowleft       {MnSyB}{\mathrel}
  \Decl@Mn@Alias\ncurvearrowleft     {MnSyB}{\mathrel}
\Decl@Mn@Char\nrcurvearrowdown       {MnSyB}{\mathrel}
\Decl@Mn@Char\nrcurvearrowne         {MnSyB}{\mathrel}
\Decl@Mn@Char\nrcurvearrownw         {MnSyB}{\mathrel}
\Decl@Mn@Char\nrcurvearrowsw         {MnSyB}{\mathrel}
\Decl@Mn@Char\nrcurvearrowse         {MnSyB}{\mathrel}
\Decl@Mn@Char\ncurvearrowleftright   {MnSyB}{\mathrel}
\Decl@Mn@Char\ncurvearrowupdown      {MnSyB}{\mathrel}
\Decl@Mn@Char\ncurvearrowrightleft   {MnSyB}{\mathrel}
\Decl@Mn@Char\ncurvearrowdownup      {MnSyB}{\mathrel}
\Decl@Mn@Char\ncurvearrownesw        {MnSyB}{\mathrel}
\Decl@Mn@Char\ncurvearrownwse        {MnSyB}{\mathrel}
\Decl@Mn@Char\ncurvearrowswne        {MnSyB}{\mathrel}
\Decl@Mn@Char\ncurvearrowsenw        {MnSyB}{\mathrel}
\Decl@Mn@Char\nleftrightline         {MnSyB}{\mathrel}
  \Decl@Mn@Alias\nrelbar             {MnSyB}{\mathrel}
\Decl@Mn@Char\nupdownline            {MnSyB}{\mathrel}
  \Decl@Mn@Alias\ndivides            {MnSyB}{\mathrel}
```

```
  \Decl@Mn@Alias\nmid                {MnSyB}{\mathrel}
\Decl@Mn@Char\nneswline              {MnSyB}{\mathrel}
  \Decl@Mn@Alias\ndiagup             {MnSyB}{\mathrel}
\Decl@Mn@Char\nnwseline              {MnSyB}{\mathrel}
  \Decl@Mn@Alias\ndiagdown           {MnSyB}{\mathrel}
\Decl@Mn@Char\nLeftrightline         {MnSyB}{\mathrel}
  \Decl@Mn@Alias\nRelbar             {MnSyB}{\mathrel}
\Decl@Mn@Char\nUpdownline            {MnSyB}{\mathrel}
  \Decl@Mn@Alias\nparallel           {MnSyB}{\mathrel}
\Decl@Mn@Char\nNeswline              {MnSyB}{\mathrel}
\Decl@Mn@Char\nNwseline              {MnSyB}{\mathrel}
\Decl@Mn@Char\nrightvdash            {MnSyB}{\mathrel}
  \Decl@Mn@Alias\nvdash              {MnSyB}{\mathrel}
\Decl@Mn@Char\nupvdash               {MnSyB}{\mathrel}
  \Decl@Mn@Alias\nperp               {MnSyB}{\mathrel}
\Decl@Mn@Char\nleftvdash             {MnSyB}{\mathrel}
  \Decl@Mn@Alias\ndashv              {MnSyB}{\mathrel}
\Decl@Mn@Char\ndownvdash             {MnSyB}{\mathrel}
\Decl@Mn@Char\nnevdash               {MnSyB}{\mathrel}
\Decl@Mn@Char\nnwvdash               {MnSyB}{\mathrel}
\Decl@Mn@Char\nswvdash               {MnSyB}{\mathrel}
\Decl@Mn@Char\nsevdash               {MnSyB}{\mathrel}
\Decl@Mn@Char\nrightmodels           {MnSyB}{\mathrel}
  \Decl@Mn@Alias\nmodels             {MnSyB}{\mathrel}
  \Decl@Mn@Alias\nvDash              {MnSyB}{\mathrel}
\Decl@Mn@Char\nupmodels              {MnSyB}{\mathrel}
\Decl@Mn@Char\nleftmodels            {MnSyB}{\mathrel}
\Decl@Mn@Char\ndownmodels            {MnSyB}{\mathrel}
\Decl@Mn@Char\nnemodels              {MnSyB}{\mathrel}
\Decl@Mn@Char\nnwmodels              {MnSyB}{\mathrel}
\Decl@Mn@Char\nswmodels              {MnSyB}{\mathrel}
\Decl@Mn@Char\nsemodels              {MnSyB}{\mathrel}
\Decl@Mn@Char\nrightVdash            {MnSyB}{\mathrel}
  \Decl@Mn@Alias\nVdash              {MnSyB}{\mathrel}
\Decl@Mn@Char\nupVdash               {MnSyB}{\mathrel}
\Decl@Mn@Char\nleftVdash             {MnSyB}{\mathrel}
\Decl@Mn@Char\ndownVdash             {MnSyB}{\mathrel}
\Decl@Mn@Char\nneVdash               {MnSyB}{\mathrel}
\Decl@Mn@Char\nnwVdash               {MnSyB}{\mathrel}
\Decl@Mn@Char\nswVdash               {MnSyB}{\mathrel}
\Decl@Mn@Char\nseVdash               {MnSyB}{\mathrel}
\Decl@Mn@Char\nrightModels           {MnSyB}{\mathrel}
  \Decl@Mn@Alias\nVDash              {MnSyB}{\mathrel}
\Decl@Mn@Char\nupModels              {MnSyB}{\mathrel}
\Decl@Mn@Char\nleftModels            {MnSyB}{\mathrel}
\Decl@Mn@Char\ndownModels            {MnSyB}{\mathrel}
\Decl@Mn@Char\nneModels              {MnSyB}{\mathrel}
\Decl@Mn@Char\nnwModels              {MnSyB}{\mathrel}
\Decl@Mn@Char\nswModels              {MnSyB}{\mathrel}
\Decl@Mn@Char\nseModels              {MnSyB}{\mathrel}
\Decl@Mn@Char\nrcirclearrowright     {MnSyB}{\mathrel}
\Decl@Mn@Char\nrcirclearrowup        {MnSyB}{\mathrel}
  \Decl@Mn@Alias\ncirclearrowleft    {MnSyB}{\mathrel}
\Decl@Mn@Char\nrcirclearrowleft      {MnSyB}{\mathrel}
```

```
\Decl@Mn@Char\nrcirclearrowdown      {MnSyB}{\mathrel}
\Decl@Mn@Char\nlcirclearrowright     {MnSyB}{\mathrel}
\Decl@Mn@Char\nlcirclearrowup        {MnSyB}{\mathrel}
  \Decl@Mn@Alias\ncirclearrowright   {MnSyB}{\mathrel}
\Decl@Mn@Char\nlcirclearrowleft      {MnSyB}{\mathrel}
\Decl@Mn@Char\nlcirclearrowdown      {MnSyB}{\mathrel}
```

MnSymbolC: operators.

```
\Set@Mn@Sym{0}
\Decl@Mn@Char\cdot                   {MnSyC}{\mathbin}
  \Decl@Mn@Alias\cdotp               {MnSyC}{\mathpunct}
\Decl@Mn@Char\hdotdot                {MnSyC}{\mathbin}
\Decl@Mn@Char\vdotdot                {MnSyC}{\mathbin}
  \Decl@Mn@Alias\colon               {MnSyC}{\mathpunct}
\Decl@Mn@Char\udotdot                {MnSyC}{\mathbin}
\Decl@Mn@Char\ddotdot                {MnSyC}{\mathbin}
\Decl@Mn@Char\hdots                  {MnSyC}{\mathord}
  \Decl@Mn@Alias\@cdots              {MnSyC}{\mathinner}
%  \DeclareRobustCommand{\@cdots}{\mathinner{\hdots}}
  \let\cdots\@cdots
\Decl@Mn@Char\@vdots                 {MnSyC}{\mathord}
  \DeclareRobustCommand{\vdots}{%
    \ifmmode \@vdots \else \hbox{$\@vdots$}\fi}
\Decl@Mn@Char\udots                  {MnSyC}{\mathord}
\Decl@Mn@Char\ddots                  {MnSyC}{\mathord}
\Decl@Mn@Char\righttherefore         {MnSyC}{\mathbin}
\Decl@Mn@Char\uptherefore            {MnSyC}{\mathbin}
  \Decl@Mn@Alias\therefore           {MnSyC}{\mathbin}
\Decl@Mn@Char\lefttherefore          {MnSyC}{\mathbin}
\Decl@Mn@Char\downtherefore          {MnSyC}{\mathbin}
  \Decl@Mn@Alias\because             {MnSyC}{\mathbin}
\Decl@Mn@Char\diamonddots            {MnSyC}{\mathbin}
\Decl@Mn@Char\squaredots             {MnSyC}{\mathbin}
\Decl@Mn@Char\fivedots               {MnSyC}{\mathbin}
\Decl@Mn@Char\minus                  {MnSyC}{\mathbin}
\Decl@Mn@Char\medvert                {MnSyC}{\mathbin}
  \Decl@Mn@Alias\shortmid            {MnSyC}{\mathrel}
\Decl@Mn@Char\medslash               {MnSyC}{\mathbin}
\Decl@Mn@Char\medbackslash           {MnSyC}{\mathbin}
  \Decl@Mn@Alias\setminus            {MnSyC}{\mathbin}
  \Decl@Mn@Alias\smallsetminus       {MnSyC}{\mathbin}
\Decl@Mn@Char\plus                   {MnSyC}{\mathbin}
\Decl@Mn@Char\times                  {MnSyC}{\mathbin}
\Decl@Mn@Char\pm                     {MnSyC}{\mathbin}
\Decl@Mn@Char\mp                     {MnSyC}{\mathbin}
\Decl@Mn@Char\dotminus               {MnSyC}{\mathbin}
\Decl@Mn@Char\dotmedvert             {MnSyC}{\mathbin}
\Decl@Mn@Char\minusdot               {MnSyC}{\mathbin}
\Decl@Mn@Char\medvertdot             {MnSyC}{\mathbin}
\Decl@Mn@Char\div                    {MnSyC}{\mathbin}
\Decl@Mn@Char\slashdiv               {MnSyC}{\mathbin}
\Decl@Mn@Char\vertdiv                {MnSyC}{\mathbin}
\Decl@Mn@Char\backslashdiv           {MnSyC}{\mathbin}
\Decl@Mn@Char\neg                    {MnSyC}{\mathord}
  \Decl@Mn@Alias\lnot                {MnSyC}{\mathord}
```

```
  \Decl@Mn@Alias\minushookdown       {MnSyC}{\mathbin}
\Decl@Mn@Char\backneg                {MnSyC}{\mathord}
  \Decl@Mn@Alias\hookdownminus       {MnSyC}{\mathbin}
\Decl@Mn@Char\dtimes                 {MnSyC}{\mathbin}
\Decl@Mn@Char\rtimes                 {MnSyC}{\mathbin}
\Decl@Mn@Char\utimes                 {MnSyC}{\mathbin}
\Decl@Mn@Char\ltimes                 {MnSyC}{\mathbin}
\Decl@Mn@Char\bowtie                 {MnSyC}{\mathbin}
  \Decl@Mn@Alias\Join                {MnSyC}{\mathbin}
\Decl@Mn@Char\vertbowtie             {MnSyC}{\mathbin}
\Decl@Mn@Char\rightY                 {MnSyC}{\mathbin}
\Decl@Mn@Char\upY                    {MnSyC}{\mathbin}
\Decl@Mn@Char\leftY                  {MnSyC}{\mathbin}
\Decl@Mn@Char\downY                  {MnSyC}{\mathbin}
\Decl@Mn@Char\wedge                  {MnSyC}{\mathbin}
  \Decl@Mn@Alias\land                {MnSyC}{\mathbin}
\Decl@Mn@Char\vee                    {MnSyC}{\mathbin}
  \Decl@Mn@Alias\lor                 {MnSyC}{\mathbin}
\Decl@Mn@Char\wedgedot               {MnSyC}{\mathbin}
\Decl@Mn@Char\veedot                 {MnSyC}{\mathbin}
\Decl@Mn@Char\doublewedge            {MnSyC}{\mathbin}
\Decl@Mn@Char\doublevee              {MnSyC}{\mathbin}
\Decl@Mn@Char\curlywedge             {MnSyC}{\mathbin}
\Decl@Mn@Char\curlyvee               {MnSyC}{\mathbin}
\Decl@Mn@Char\curlywedgedot          {MnSyC}{\mathbin}
\Decl@Mn@Char\curlyveedot            {MnSyC}{\mathbin}
\Decl@Mn@Char\doublecurlywedge       {MnSyC}{\mathbin}
\Decl@Mn@Char\doublecurlyvee         {MnSyC}{\mathbin}
\Decl@Mn@Char\cup                    {MnSyC}{\mathbin}
\Decl@Mn@Char\cap                    {MnSyC}{\mathbin}
\Decl@Mn@Char\doublecup              {MnSyC}{\mathbin}
  \Decl@Mn@Alias\Cup                 {MnSyC}{\mathbin}
\Decl@Mn@Char\doublecap              {MnSyC}{\mathbin}
  \Decl@Mn@Alias\Cap                 {MnSyC}{\mathbin}
\Decl@Mn@Char\cupdot                 {MnSyC}{\mathbin}
\Decl@Mn@Char\capdot                 {MnSyC}{\mathbin}
\Decl@Mn@Char\cupplus                {MnSyC}{\mathbin}
  \Decl@Mn@Alias\uplus               {MnSyC}{\mathbin}
\Decl@Mn@Char\capplus                {MnSyC}{\mathbin}
\Decl@Mn@Char\sqcup                  {MnSyC}{\mathbin}
\Decl@Mn@Char\sqcap                  {MnSyC}{\mathbin}
\Decl@Mn@Char\doublesqcup            {MnSyC}{\mathbin}
\Decl@Mn@Char\doublesqcap            {MnSyC}{\mathbin}
\Decl@Mn@Char\sqcupdot               {MnSyC}{\mathbin}
\Decl@Mn@Char\sqcapdot               {MnSyC}{\mathbin}
\Decl@Mn@Char\sqcupplus              {MnSyC}{\mathbin}
\Decl@Mn@Char\sqcapplus              {MnSyC}{\mathbin}
\Decl@Mn@Char\smalltriangleright     {MnSyC}{\mathbin}
\Decl@Mn@Char\smalltriangleup        {MnSyC}{\mathbin}
\Decl@Mn@Char\smalltriangleleft      {MnSyC}{\mathbin}
\Decl@Mn@Char\smalltriangledown      {MnSyC}{\mathbin}
\Decl@Mn@Char\filledtriangleright    {MnSyC}{\mathbin}
  \Decl@Mn@Alias\blacktriangleright  {MnSyC}{\mathbin}
\Decl@Mn@Char\filledtriangleup       {MnSyC}{\mathbin}
```

```
\Decl@Mn@Char\filledtriangleleft     {MnSyC}{\mathbin}
  \Decl@Mn@Alias\blacktriangleleft   {MnSyC}{\mathbin}
\Decl@Mn@Char\filledtriangledown     {MnSyC}{\mathbin}
\Decl@Mn@Char\medtriangleright       {MnSyC}{\mathbin}
  \Decl@Mn@Alias\triangleright       {MnSyC}{\mathbin}
\Decl@Mn@Char\medtriangleup          {MnSyC}{\mathbin}
  \Decl@Mn@Alias\triangle            {MnSyC}{\mathbin}
  \Decl@Mn@Alias\vartriangle         {MnSyC}{\mathbin}
  \Decl@Mn@Alias\bigtriangleup       {MnSyC}{\mathbin}
\Decl@Mn@Char\medtriangleleft        {MnSyC}{\mathbin}
  \Decl@Mn@Alias\triangleleft        {MnSyC}{\mathbin}
\Decl@Mn@Char\medtriangledown        {MnSyC}{\mathbin}
  \Decl@Mn@Alias\bigtriangledown     {MnSyC}{\mathbin}
  \Decl@Mn@Alias\triangledown        {MnSyC}{\mathbin}
\Decl@Mn@Char\largetriangleright     {MnSyC}{\mathord}
\Decl@Mn@Char\largetriangleup        {MnSyC}{\mathord}
\Decl@Mn@Char\largetriangleleft      {MnSyC}{\mathord}
\Decl@Mn@Char\largetriangledown      {MnSyC}{\mathord}
\Decl@Mn@Char\circ                   {MnSyC}{\mathbin}
\Decl@Mn@Char\bullet                 {MnSyC}{\mathbin}
\Decl@Mn@Char\medcircle              {MnSyC}{\mathbin}
\Decl@Mn@Char\largecircle            {MnSyC}{\mathord}
  \Decl@Mn@Alias\bigcirc             {MnSyC}{\mathord}
\Decl@Mn@Char\ominus                 {MnSyC}{\mathbin}
  \Decl@Mn@Alias\circleddash         {MnSyC}{\mathbin}
\Decl@Mn@Char\overt                  {MnSyC}{\mathbin}
\Decl@Mn@Char\oslash                 {MnSyC}{\mathbin}
\Decl@Mn@Char\obackslash             {MnSyC}{\mathbin}
\Decl@Mn@Char\oplus                  {MnSyC}{\mathbin}
\Decl@Mn@Char\otimes                 {MnSyC}{\mathbin}
\Decl@Mn@Char\odot                   {MnSyC}{\mathbin}
\Decl@Mn@Char\ocirc                  {MnSyC}{\mathbin}
  \Decl@Mn@Alias\circledcirc         {MnSyC}{\mathbin}
\Decl@Mn@Char\otriangle              {MnSyC}{\mathbin}
\Decl@Mn@Char\oast                   {MnSyC}{\mathbin}
  \Decl@Mn@Alias\circledast          {MnSyC}{\mathbin}
\Decl@Mn@Char\ostar                  {MnSyC}{\mathbin}
\Decl@Mn@Char\diameter               {MnSyC}{\mathord}
  \Decl@Mn@Alias\emptyset            {MnSyC}{\mathord}
  \Decl@Mn@Alias\varnothing          {MnSyC}{\mathord}
\Decl@Mn@Char\smallsquare            {MnSyC}{\mathbin}
\Decl@Mn@Char\filledsquare           {MnSyC}{\mathbin}
\Decl@Mn@Char\medsquare              {MnSyC}{\mathbin}
  \Decl@Mn@Alias\square              {MnSyC}{\mathbin}
  \Decl@Mn@Alias\Box                 {MnSyC}{\mathbin}
\Decl@Mn@Char\largesquare            {MnSyC}{\mathord}
\Decl@Mn@Char\smalldiamond           {MnSyC}{\mathbin}
  \Decl@Mn@Alias\diamond             {MnSyC}{\mathbin}
\Decl@Mn@Char\filleddiamond          {MnSyC}{\mathbin}
\Decl@Mn@Char\meddiamond             {MnSyC}{\mathbin}
  \Decl@Mn@Alias\Diamond             {MnSyC}{\mathbin}
\Decl@Mn@Char\largediamond           {MnSyC}{\mathord}
\Decl@Mn@Char\boxminus               {MnSyC}{\mathbin}
\Decl@Mn@Char\boxvert                {MnSyC}{\mathbin}
```

```
\Decl@Mn@Char\boxslash               {MnSyC}{\mathbin}
\Decl@Mn@Char\boxbackslash           {MnSyC}{\mathbin}
\Decl@Mn@Char\boxplus                {MnSyC}{\mathbin}
\Decl@Mn@Char\boxtimes               {MnSyC}{\mathbin}
\Decl@Mn@Char\boxdot                 {MnSyC}{\mathbin}
\Decl@Mn@Char\boxbox                 {MnSyC}{\mathbin}
\Decl@Mn@Char\diamondminus           {MnSyC}{\mathbin}
\Decl@Mn@Char\diamondvert            {MnSyC}{\mathbin}
\Decl@Mn@Char\diamondslash           {MnSyC}{\mathbin}
\Decl@Mn@Char\diamondbackslash       {MnSyC}{\mathbin}
\Decl@Mn@Char\diamondplus            {MnSyC}{\mathbin}
\Decl@Mn@Char\diamondtimes           {MnSyC}{\mathbin}
\Decl@Mn@Char\diamonddot             {MnSyC}{\mathbin}
\Decl@Mn@Char\diamonddiamond         {MnSyC}{\mathbin}
\Decl@Mn@Char\smallstar              {MnSyC}{\mathbin}
\Decl@Mn@Char\filledstar             {MnSyC}{\mathbin}
\Decl@Mn@Char\medstar                {MnSyC}{\mathbin}
\Decl@Mn@Char\largestar              {MnSyC}{\mathord}
\Decl@Mn@Char\pentagram              {MnSyC}{\mathbin}
\Decl@Mn@Char\largepentagram         {MnSyC}{\mathord}
\Decl@Mn@Char\thinstar               {MnSyC}{\mathbin}
  \Decl@Mn@Alias\star                {MnSyC}{\mathbin}
\Decl@Mn@Char\ast                    {MnSyC}{\mathbin}
\Decl@Mn@Char\hbipropto              {MnSyC}{\mathbin}
\Decl@Mn@Char\neswbipropto           {MnSyC}{\mathbin}
\Decl@Mn@Char\vbipropto              {MnSyC}{\mathbin}
\Decl@Mn@Char\nwsebipropto           {MnSyC}{\mathbin}
\Decl@Mn@Char\leftpropto             {MnSyC}{\mathrel}
  \Decl@Mn@Alias\propto              {MnSyC}{\mathrel}
  \Decl@Mn@Alias\varpropto           {MnSyC}{\mathrel}
\Decl@Mn@Char\downpropto             {MnSyC}{\mathrel}
\Decl@Mn@Char\rightpropto            {MnSyC}{\mathrel}
\Decl@Mn@Char\uppropto               {MnSyC}{\mathrel}
\Decl@Mn@Char\hcrossing              {MnSyC}{\mathrel}
\Decl@Mn@Char\neswcrossing           {MnSyC}{\mathrel}
\Decl@Mn@Char\vcrossing              {MnSyC}{\mathrel}
\Decl@Mn@Char\nwsecrossing           {MnSyC}{\mathrel}
\Decl@Mn@Char\between                {MnSyC}{\mathrel}
\Decl@Mn@Char\separated              {MnSyC}{\mathrel}
\Decl@Mn@Char\bot                    {MnSyC}{\mathord}
\Decl@Mn@Char\top                    {MnSyC}{\mathord}
  \Decl@Mn@Alias\intercal            {MnSyC}{\mathbin}
\Decl@Mn@Char\wreath                 {MnSyC}{\mathbin}
  \Decl@Mn@Alias\wr                  {MnSyC}{\mathbin}
\Decl@Mn@Char\angle                  {MnSyC}{\mathord}
\Decl@Mn@Char\measuredangle          {MnSyC}{\mathord}
\Decl@Mn@Char\sphericalangle         {MnSyC}{\mathord}
\Decl@Mn@Char\prime                  {MnSyC}{\mathord}
\Decl@Mn@Char\backprime              {MnSyC}{\mathord}
\Decl@Mn@Char\smallprod              {MnSyC}{\mathbin}
\Decl@Mn@Char\amalg                  {MnSyC}{\mathbin}
\Decl@Mn@Char\checkmark              {MnSyC}{\mathord}
\Decl@Mn@Char\lightning              {MnSyC}{\mathord}
\Decl@Mn@Char\diamondsuit            {MnSyC}{\mathord}
```

```
\Decl@Mn@Char\heartsuit              {MnSyC}{\mathord}
\Decl@Mn@Char\spadesuit              {MnSyC}{\mathord}
\Decl@Mn@Char\clubsuit               {MnSyC}{\mathord}
\Decl@Mn@Char\forall                 {MnSyC}{\mathord}
\Decl@Mn@Char\exists                 {MnSyC}{\mathord}
\Decl@Mn@Char\nexists                {MnSyC}{\mathord}
\Decl@Mn@Char\nabla                  {MnSyC}{\mathord}
\Decl@Mn@Char\infty                  {MnSyC}{\mathord}
\Decl@Mn@Char\smallint               {MnSyC}{\mathop}
\Decl@Mn@Char\flat                   {MnSyC}{\mathop}
\Decl@Mn@Char\natural                {MnSyC}{\mathop}
\Decl@Mn@Char\sharp                  {MnSyC}{\mathop}
\Decl@Mn@Char\aleph                  {MnSyC}{\mathord}
\Decl@Mn@Char\beth                   {MnSyC}{\mathord}
\Decl@Mn@Char\gimel                  {MnSyC}{\mathord}
\Decl@Mn@Char\daleth                 {MnSyC}{\mathord}
\Decl@Mn@Char\wp                     {MnSyC}{\mathord}
\Decl@Mn@Char\powerset               {MnSyC}{\mathord}
\Decl@Mn@Char\invneg                 {MnSyC}{\mathord}
  \Decl@Mn@Alias\minushookup         {MnSyC}{\mathbin}
\Decl@Mn@Char\invbackneg             {MnSyC}{\mathord}
  \Decl@Mn@Alias\hookupminus         {MnSyC}{\mathbin}
\Decl@Mn@Char\lefthalfcup            {MnSyC}{\mathbin}
\Decl@Mn@Char\righthalfcup           {MnSyC}{\mathbin}
\Decl@Mn@Char\lefthalfcap            {MnSyC}{\mathbin}
\Decl@Mn@Char\righthalfcap           {MnSyC}{\mathbin}
\Decl@Mn@Char\closedsucc             {MnSyC}{\mathrel}
\Decl@Mn@Char\closedcurlywedge       {MnSyC}{\mathbin}
\Decl@Mn@Char\closedprec             {MnSyC}{\mathrel}
\Decl@Mn@Char\closedcurlyvee         {MnSyC}{\mathbin}
\Decl@Mn@Char\rightslice             {MnSyC}{\mathrel}
\Decl@Mn@Char\upslice                {MnSyC}{\mathbin}
\Decl@Mn@Char\leftslice              {MnSyC}{\mathrel}
\Decl@Mn@Char\downslice              {MnSyC}{\mathbin}
\Decl@Mn@Char\smalllozenge           {MnSyC}{\mathord}
\Decl@Mn@Char\filledlozenge          {MnSyC}{\mathord}
\Decl@Mn@Char\medlozenge             {MnSyC}{\mathord}
  \Decl@Mn@Alias\lozenge             {MnSyC}{\mathord}
\Decl@Mn@Char\filledmedlozenge       {MnSyC}{\mathord}
  \Decl@Mn@Alias\blacklozenge        {MnSyC}{\mathord}
\Decl@Mn@Char\largelozenge           {MnSyC}{\mathord}
\Decl@Mn@Char\filledmedtriangleright {MnSyC}{\mathbin}
\Decl@Mn@Char\filledmedtriangleup    {MnSyC}{\mathbin}
  \Decl@Mn@Alias\blacktriangle       {MnSyC}{\mathbin}
\Decl@Mn@Char\filledmedtriangleleft  {MnSyC}{\mathbin}
\Decl@Mn@Char\filledmedtriangledown  {MnSyC}{\mathbin}
  \Decl@Mn@Alias\blacktriangledown   {MnSyC}{\mathbin}
\Decl@Mn@Char\filledmedsquare        {MnSyC}{\mathbin}
  \Decl@Mn@Alias\blacksquare         {MnSyC}{\mathbin}
\Decl@Mn@Char\filledlargestar        {MnSyC}{\mathord}
  \Decl@Mn@Alias\bigstar             {MnSyC}{\mathord}
\Decl@Mn@Char\medstarofdavid         {MnSyC}{\mathord}
\Decl@Mn@Char\largestarofdavid       {MnSyC}{\mathord}
\Decl@Mn@Char\maltese                {MnSyC}{\mathord}
```

```
\Set@Mn@Sym{220}
\Decl@Mn@Char\closedequal           {MnSyC}{\mathrel}
\Decl@Mn@Char\equalclosed           {MnSyC}{\mathrel}
\Decl@Mn@Char\equivclosed           {MnSyC}{\mathrel}
\Decl@Mn@Char\lesssim               {MnSyC}{\mathrel}
\Decl@Mn@Char\gtrsim                {MnSyC}{\mathrel}
\Decl@Mn@Char\lessapprox            {MnSyC}{\mathrel}
\Decl@Mn@Char\gtrapprox             {MnSyC}{\mathrel}
\Decl@Mn@Char\eqslantless           {MnSyC}{\mathrel}
\Decl@Mn@Char\eqslantgtr            {MnSyC}{\mathrel}
\Decl@Mn@Char\curlyeqprec           {MnSyC}{\mathrel}
\Decl@Mn@Char\curlyeqsucc           {MnSyC}{\mathrel}
\Decl@Mn@Char\Rrightarrow           {MnSyC}{\mathrel}
\Decl@Mn@Char\Lleftarrow            {MnSyC}{\mathrel}
\Decl@Mn@Char\nclosedequal          {MnSyC}{\mathrel}
\Decl@Mn@Char\nequalclosed          {MnSyC}{\mathrel}
\Decl@Mn@Char\nequivclosed          {MnSyC}{\mathrel}
\Decl@Mn@Char\lnsim                 {MnSyC}{\mathrel}
\Decl@Mn@Char\gnsim                 {MnSyC}{\mathrel}
\Decl@Mn@Char\lnapprox              {MnSyC}{\mathrel}
\Decl@Mn@Char\gnapprox              {MnSyC}{\mathrel}
\Decl@Mn@Char\neqslantless          {MnSyC}{\mathrel}
\Decl@Mn@Char\neqslantgtr           {MnSyC}{\mathrel}
\Decl@Mn@Char\ncurlyeqprec          {MnSyC}{\mathrel}
\Decl@Mn@Char\ncurlyeqsucc          {MnSyC}{\mathrel}
\Decl@Mn@Char\nRrightarrow          {MnSyC}{\mathrel}
\Decl@Mn@Char\nLleftarrow           {MnSyC}{\mathrel}
\Decl@Mn@Char\Rsh                   {MnSyC}{\mathrel}
\Decl@Mn@Char\Lsh                   {MnSyC}{\mathrel}
\Decl@Mn@Char\looparrowright        {MnSyC}{\mathrel}
\Decl@Mn@Char\looparrowleft         {MnSyC}{\mathrel}
\Decl@Mn@Char\leftthreetimes        {MnSyC}{\mathbin}
\Decl@Mn@Char\rightthreetimes       {MnSyC}{\mathbin}
\Decl@Mn@Char\Vvdash                {MnSyC}{\mathrel}
\Decl@Mn@Char\nshortmid             {MnSyC}{\mathrel}
\Decl@Mn@Char\shortparallel         {MnSyC}{\mathrel}
\Decl@Mn@Char\nshortparallel        {MnSyC}{\mathrel}
```

MnSymbolD: Relations.

```
\Set@Mn@Sym{0}
\Decl@Mn@Char\equal                 {MnSyD}{\mathrel}
\Decl@Mn@Char\equiv                 {MnSyD}{\mathrel}
\Decl@Mn@Char\sim                   {MnSyD}{\mathrel}
\Decl@Mn@Char\backsim               {MnSyD}{\mathrel}
\Decl@Mn@Char\approx                {MnSyD}{\mathrel}
\Decl@Mn@Char\backapprox            {MnSyD}{\mathrel}
\Decl@Mn@Char\triplesim             {MnSyD}{\mathrel}
\Decl@Mn@Char\backtriplesim         {MnSyD}{\mathrel}
\Decl@Mn@Char\simeq                 {MnSyD}{\mathrel}
\Decl@Mn@Char\backsimeq             {MnSyD}{\mathrel}
\Decl@Mn@Char\eqsim                 {MnSyD}{\mathrel}
\Decl@Mn@Char\backeqsim             {MnSyD}{\mathrel}
\Decl@Mn@Char\cong                  {MnSyD}{\mathrel}
\Decl@Mn@Char\backcong              {MnSyD}{\mathrel}
\Decl@Mn@Char\approxeq              {MnSyD}{\mathrel}
```

```
\Decl@Mn@Char\backapproxeq           {MnSyD}{\mathrel}
\Decl@Mn@Char\bumpeq                 {MnSyD}{\mathrel}
\Decl@Mn@Char\eqbump                 {MnSyD}{\mathrel}
\Decl@Mn@Char\Bumpeq                 {MnSyD}{\mathrel}
\Decl@Mn@Char\doteq                  {MnSyD}{\mathrel}
\Decl@Mn@Char\eqdot                  {MnSyD}{\mathrel}
\Decl@Mn@Char\Doteq                  {MnSyD}{\mathrel}
  \Decl@Mn@Alias\doteqdot            {MnSyD}{\mathbin}
\Decl@Mn@Char\fallingdotseq          {MnSyD}{\mathrel}
\Decl@Mn@Char\risingdotseq           {MnSyD}{\mathrel}
\Decl@Mn@Char\smile                  {MnSyD}{\mathrel}
  \Decl@Mn@Alias\smallsmile          {MnSyD}{\mathrel}
\Decl@Mn@Char\frown                  {MnSyD}{\mathrel}
  \Decl@Mn@Alias\smallfrown          {MnSyD}{\mathrel}
\Decl@Mn@Char\doublesmile            {MnSyD}{\mathrel}
\Decl@Mn@Char\doublefrown            {MnSyD}{\mathrel}
\Decl@Mn@Char\triplesmile            {MnSyD}{\mathrel}
\Decl@Mn@Char\triplefrown            {MnSyD}{\mathrel}
\Decl@Mn@Char\smilefrown             {MnSyD}{\mathrel}
  \Decl@Mn@Alias\asymp               {MnSyD}{\mathrel}
\Decl@Mn@Char\frownsmile             {MnSyD}{\mathrel}
\Decl@Mn@Char\smileeq                {MnSyD}{\mathrel}
\Decl@Mn@Char\frowneq                {MnSyD}{\mathrel}
\Decl@Mn@Char\eqsmile                {MnSyD}{\mathrel}
\Decl@Mn@Char\eqfrown                {MnSyD}{\mathrel}
\Decl@Mn@Char\doublesmileeq          {MnSyD}{\mathrel}
\Decl@Mn@Char\doublefrowneq          {MnSyD}{\mathrel}
\Decl@Mn@Char\smileeqfrown           {MnSyD}{\mathrel}
\Decl@Mn@Char\frowneqsmile           {MnSyD}{\mathrel}
\Decl@Mn@Char\smilefrowneq           {MnSyD}{\mathrel}
\Decl@Mn@Char\frownsmileeq           {MnSyD}{\mathrel}
\Decl@Mn@Char\sqsmile                {MnSyD}{\mathrel}
\Decl@Mn@Char\sqfrown                {MnSyD}{\mathrel}
\Decl@Mn@Char\sqdoublesmile          {MnSyD}{\mathrel}
\Decl@Mn@Char\sqdoublefrown          {MnSyD}{\mathrel}
\Decl@Mn@Char\sqtriplesmile          {MnSyD}{\mathrel}
\Decl@Mn@Char\sqtriplefrown          {MnSyD}{\mathrel}
\Decl@Mn@Char\sqsmilefrown           {MnSyD}{\mathrel}
\Decl@Mn@Char\sqfrownsmile           {MnSyD}{\mathrel}
\Decl@Mn@Char\sqsmileeq              {MnSyD}{\mathrel}
\Decl@Mn@Char\sqfrowneq              {MnSyD}{\mathrel}
\Decl@Mn@Char\sqeqsmile              {MnSyD}{\mathrel}
\Decl@Mn@Char\sqeqfrown              {MnSyD}{\mathrel}
\Decl@Mn@Char\sqdoublesmileeq        {MnSyD}{\mathrel}
\Decl@Mn@Char\sqdoublefrowneq        {MnSyD}{\mathrel}
\Decl@Mn@Char\sqsmileeqfrown         {MnSyD}{\mathrel}
\Decl@Mn@Char\sqfrowneqsmile         {MnSyD}{\mathrel}
\Decl@Mn@Char\eqcirc                 {MnSyD}{\mathrel}
\Decl@Mn@Char\circeq                 {MnSyD}{\mathrel}
\Decl@Mn@Char\triangleeq             {MnSyD}{\mathrel}
  \Decl@Mn@Alias\triangleq           {MnSyD}{\mathrel}
\Decl@Mn@Char\hateq                  {MnSyD}{\mathrel}
\Decl@Mn@Char\in                     {MnSyD}{\mathrel}
\Decl@Mn@Char\owns                   {MnSyD}{\mathrel}
```

```
  \Decl@Mn@Alias\ni                  {MnSyD}{\mathrel}
\Decl@Mn@Char\less                   {MnSyD}{\mathrel}
\Decl@Mn@Char\gtr                    {MnSyD}{\mathrel}
\Decl@Mn@Char\leq                    {MnSyD}{\mathrel}
  \Decl@Mn@Alias\le                  {MnSyD}{\mathrel}
\Decl@Mn@Char\geq                    {MnSyD}{\mathrel}
  \Decl@Mn@Alias\ge                  {MnSyD}{\mathrel}
\Decl@Mn@Char\leqslant               {MnSyD}{\mathrel}
\Decl@Mn@Char\geqslant               {MnSyD}{\mathrel}
\Decl@Mn@Char\leqq                   {MnSyD}{\mathrel}
\Decl@Mn@Char\geqq                   {MnSyD}{\mathrel}
\Decl@Mn@Char\lessgtr                {MnSyD}{\mathrel}
\Decl@Mn@Char\gtrless                {MnSyD}{\mathrel}
\Decl@Mn@Char\lesseqgtr              {MnSyD}{\mathrel}
\Decl@Mn@Char\gtreqless              {MnSyD}{\mathrel}
\Decl@Mn@Char\lesseqqgtr             {MnSyD}{\mathrel}
\Decl@Mn@Char\gtreqqless             {MnSyD}{\mathrel}
\Decl@Mn@Char\lesseqgtrslant         {MnSyD}{\mathrel}
\Decl@Mn@Char\gtreqlessslant         {MnSyD}{\mathrel}
\Decl@Mn@Char\ll                     {MnSyD}{\mathrel}
\Decl@Mn@Char\gg                     {MnSyD}{\mathrel}
\Decl@Mn@Char\lll                    {MnSyD}{\mathrel}
  \Decl@Mn@Alias\llless              {MnSyD}{\mathrel}
\Decl@Mn@Char\ggg                    {MnSyD}{\mathrel}
  \Decl@Mn@Alias\gggtr               {MnSyD}{\mathrel}
\Decl@Mn@Char\lessclosed             {MnSyD}{\mathrel}
  \Decl@Mn@Alias\lhd                 {MnSyD}{\mathrel}
  \Decl@Mn@Alias\vartriangleleft     {MnSyD}{\mathrel}
\Decl@Mn@Char\gtrclosed              {MnSyD}{\mathrel}
  \Decl@Mn@Alias\rhd                 {MnSyD}{\mathrel}
  \Decl@Mn@Alias\vartriangleright    {MnSyD}{\mathrel}
\Decl@Mn@Char\leqclosed              {MnSyD}{\mathrel}
  \Decl@Mn@Alias\unlhd               {MnSyD}{\mathrel}
  \Decl@Mn@Alias\trianglelefteq      {MnSyD}{\mathrel}
\Decl@Mn@Char\geqclosed              {MnSyD}{\mathrel}
  \Decl@Mn@Alias\unrhd               {MnSyD}{\mathrel}
  \Decl@Mn@Alias\trianglerighteq     {MnSyD}{\mathrel}
\Decl@Mn@Char\sqsubset               {MnSyD}{\mathrel}
\Decl@Mn@Char\sqsupset               {MnSyD}{\mathrel}
\Decl@Mn@Char\sqsubseteq             {MnSyD}{\mathrel}
\Decl@Mn@Char\sqsupseteq             {MnSyD}{\mathrel}
\Decl@Mn@Char\sqsubseteqq            {MnSyD}{\mathrel}
\Decl@Mn@Char\sqsupseteqq            {MnSyD}{\mathrel}
\Decl@Mn@Char\Sqsubset               {MnSyD}{\mathrel}
\Decl@Mn@Char\Sqsupset               {MnSyD}{\mathrel}
\Decl@Mn@Char\subset                 {MnSyD}{\mathrel}
\Decl@Mn@Char\supset                 {MnSyD}{\mathrel}
\Decl@Mn@Char\subseteq               {MnSyD}{\mathrel}
\Decl@Mn@Char\supseteq               {MnSyD}{\mathrel}
\Decl@Mn@Char\subseteqq              {MnSyD}{\mathrel}
\Decl@Mn@Char\supseteqq              {MnSyD}{\mathrel}
\Decl@Mn@Char\Subset                 {MnSyD}{\mathrel}
\Decl@Mn@Char\Supset                 {MnSyD}{\mathrel}
\Decl@Mn@Char\prec                   {MnSyD}{\mathrel}
```

```
\Decl@Mn@Char\succ                   {MnSyD}{\mathrel}
\Decl@Mn@Char\preceq                 {MnSyD}{\mathrel}
\Decl@Mn@Char\succeq                 {MnSyD}{\mathrel}
\Decl@Mn@Char\preccurlyeq            {MnSyD}{\mathrel}
\Decl@Mn@Char\succcurlyeq            {MnSyD}{\mathrel}
\Decl@Mn@Char\precsim                {MnSyD}{\mathrel}
\Decl@Mn@Char\succsim                {MnSyD}{\mathrel}
\Decl@Mn@Char\precapprox             {MnSyD}{\mathrel}
\Decl@Mn@Char\succapprox             {MnSyD}{\mathrel}
\Decl@Mn@Char\lessdot                {MnSyD}{\mathrel}
\Decl@Mn@Char\gtrdot                 {MnSyD}{\mathrel}
\Decl@Mn@Char\leqdot                 {MnSyD}{\mathrel}
\Decl@Mn@Char\geqdot                 {MnSyD}{\mathrel}
\Decl@Mn@Char\leqslantdot            {MnSyD}{\mathrel}
\Decl@Mn@Char\geqslantdot            {MnSyD}{\mathrel}
\Decl@Mn@Char\nequal                 {MnSyD}{\mathrel}
  \Decl@Mn@Alias\neq                 {MnSyD}{\mathrel}
  \Decl@Mn@Alias\ne                  {MnSyD}{\mathrel}
\Decl@Mn@Char\nequiv                 {MnSyD}{\mathrel}
\Decl@Mn@Char\nsim                   {MnSyD}{\mathrel}
\Decl@Mn@Char\nbacksim               {MnSyD}{\mathrel}
\Decl@Mn@Char\napprox                {MnSyD}{\mathrel}
\Decl@Mn@Char\nbackapprox            {MnSyD}{\mathrel}
\Decl@Mn@Char\ntriplesim             {MnSyD}{\mathrel}
\Decl@Mn@Char\nbacktriplesim         {MnSyD}{\mathrel}
\Decl@Mn@Char\nsimeq                 {MnSyD}{\mathrel}
\Decl@Mn@Char\nbacksimeq             {MnSyD}{\mathrel}
\Decl@Mn@Char\neqsim                 {MnSyD}{\mathrel}
\Decl@Mn@Char\nbackeqsim             {MnSyD}{\mathrel}
\Decl@Mn@Char\ncong                  {MnSyD}{\mathrel}
\Decl@Mn@Char\nbackcong              {MnSyD}{\mathrel}
\Decl@Mn@Char\napproxeq              {MnSyD}{\mathrel}
\Decl@Mn@Char\nbackapproxeq          {MnSyD}{\mathrel}
\Decl@Mn@Char\nbumpeq                {MnSyD}{\mathrel}
\Decl@Mn@Char\neqbump                {MnSyD}{\mathrel}
\Decl@Mn@Char\nBumpeq                {MnSyD}{\mathrel}
\Decl@Mn@Char\ndoteq                 {MnSyD}{\mathrel}
\Decl@Mn@Char\neqdot                 {MnSyD}{\mathrel}
\Decl@Mn@Char\nDoteq                 {MnSyD}{\mathrel}
\Decl@Mn@Char\nfallingdotseq         {MnSyD}{\mathrel}
\Decl@Mn@Char\nrisingdotseq          {MnSyD}{\mathrel}
\Decl@Mn@Char\nsmile                 {MnSyD}{\mathrel}
\Decl@Mn@Char\nfrown                 {MnSyD}{\mathrel}
\Decl@Mn@Char\ndoublesmile           {MnSyD}{\mathrel}
\Decl@Mn@Char\ndoublefrown           {MnSyD}{\mathrel}
\Decl@Mn@Char\ntriplesmile           {MnSyD}{\mathrel}
\Decl@Mn@Char\ntriplefrown           {MnSyD}{\mathrel}
\Decl@Mn@Char\nsmilefrown            {MnSyD}{\mathrel}
  \Decl@Mn@Alias\nasymp              {MnSyD}{\mathrel}
\Decl@Mn@Char\nfrownsmile            {MnSyD}{\mathrel}
\Decl@Mn@Char\nsmileeq               {MnSyD}{\mathrel}
\Decl@Mn@Char\nfrowneq               {MnSyD}{\mathrel}
\Decl@Mn@Char\neqsmile               {MnSyD}{\mathrel}
\Decl@Mn@Char\neqfrown               {MnSyD}{\mathrel}
```

```
\Decl@Mn@Char\ndoublesmileeq        {MnSyD}{\mathrel}
\Decl@Mn@Char\ndoublefrowneq        {MnSyD}{\mathrel}
\Decl@Mn@Char\nsmileeqfrown         {MnSyD}{\mathrel}
\Decl@Mn@Char\nfrowneqsmile         {MnSyD}{\mathrel}
\Decl@Mn@Char\nsmilefrowneq         {MnSyD}{\mathrel}
\Decl@Mn@Char\nfrownsmileeq         {MnSyD}{\mathrel}
\Decl@Mn@Char\nsqsmile              {MnSyD}{\mathrel}
\Decl@Mn@Char\nsqfrown              {MnSyD}{\mathrel}
\Decl@Mn@Char\nsqdoublesmile        {MnSyD}{\mathrel}
\Decl@Mn@Char\nsqdoublefrown        {MnSyD}{\mathrel}
\Decl@Mn@Char\nsqtriplesmile        {MnSyD}{\mathrel}
\Decl@Mn@Char\nsqtriplefrown        {MnSyD}{\mathrel}
\Decl@Mn@Char\nsqsmilefrown         {MnSyD}{\mathrel}
\Decl@Mn@Char\nsqfrownsmile         {MnSyD}{\mathrel}
\Decl@Mn@Char\nsqsmileeq            {MnSyD}{\mathrel}
\Decl@Mn@Char\nsqfrowneq            {MnSyD}{\mathrel}
\Decl@Mn@Char\nsqeqsmile            {MnSyD}{\mathrel}
\Decl@Mn@Char\nsqeqfrown            {MnSyD}{\mathrel}
\Decl@Mn@Char\nsqdoublesmileeq      {MnSyD}{\mathrel}
\Decl@Mn@Char\nsqdoublefrowneq      {MnSyD}{\mathrel}
\Decl@Mn@Char\nsqsmileeqfrown       {MnSyD}{\mathrel}
\Decl@Mn@Char\nsqfrowneqsmile       {MnSyD}{\mathrel}
\Decl@Mn@Char\neqcirc               {MnSyD}{\mathrel}
\Decl@Mn@Char\ncirceq               {MnSyD}{\mathrel}
\Decl@Mn@Char\ntriangleeq           {MnSyD}{\mathrel}
\Decl@Mn@Char\nhateq                {MnSyD}{\mathrel}
\Decl@Mn@Char\nin                   {MnSyD}{\mathrel}
    \Decl@Mn@Alias\notin            {MnSyD}{\mathrel}
\Decl@Mn@Char\nowns                 {MnSyD}{\mathrel}
\Decl@Mn@Char\nless                 {MnSyD}{\mathrel}
\Decl@Mn@Char\ngtr                  {MnSyD}{\mathrel}
\Decl@Mn@Char\nleq                  {MnSyD}{\mathrel}
\Decl@Mn@Char\ngeq                  {MnSyD}{\mathrel}
\Decl@Mn@Char\nleqslant             {MnSyD}{\mathrel}
\Decl@Mn@Char\ngeqslant             {MnSyD}{\mathrel}
\Decl@Mn@Char\nleqq                 {MnSyD}{\mathrel}
\Decl@Mn@Char\ngeqq                 {MnSyD}{\mathrel}
\Decl@Mn@Char\nlessgtr              {MnSyD}{\mathrel}
\Decl@Mn@Char\ngtrless              {MnSyD}{\mathrel}
\Decl@Mn@Char\nlesseqgtr            {MnSyD}{\mathrel}
\Decl@Mn@Char\ngtreqless            {MnSyD}{\mathrel}
\Decl@Mn@Char\nlesseqqgtr           {MnSyD}{\mathrel}
\Decl@Mn@Char\ngtreqqless           {MnSyD}{\mathrel}
\Decl@Mn@Char\nlesseqgtrslant       {MnSyD}{\mathrel}
\Decl@Mn@Char\ngtreqlessslant       {MnSyD}{\mathrel}
\Decl@Mn@Char\nll                   {MnSyD}{\mathrel}
\Decl@Mn@Char\ngg                   {MnSyD}{\mathrel}
\Decl@Mn@Char\nlll                  {MnSyD}{\mathrel}
\Decl@Mn@Char\nggg                  {MnSyD}{\mathrel}
\Decl@Mn@Char\nlessclosed           {MnSyD}{\mathrel}
  \Decl@Mn@Alias\ntriangleleft      {MnSyD}{\mathrel}
\Decl@Mn@Char\ngtrclosed            {MnSyD}{\mathrel}
  \Decl@Mn@Alias\ntriangleright     {MnSyD}{\mathrel}
\Decl@Mn@Char\nleqclosed            {MnSyD}{\mathrel}
```

```
  \Decl@Mn@Alias\ntrianglelefteq     {MnSyD}{\mathrel}
\Decl@Mn@Char\ngeqclosed             {MnSyD}{\mathrel}
  \Decl@Mn@Alias\ntrianglerighteq    {MnSyD}{\mathrel}
\Decl@Mn@Char\nsqsubset              {MnSyD}{\mathrel}
\Decl@Mn@Char\nsqsupset              {MnSyD}{\mathrel}
\Decl@Mn@Char\nsqsubseteq            {MnSyD}{\mathrel}
\Decl@Mn@Char\nsqsupseteq            {MnSyD}{\mathrel}
\Decl@Mn@Char\nsqsubseteqq           {MnSyD}{\mathrel}
\Decl@Mn@Char\nsqsupseteqq           {MnSyD}{\mathrel}
\Decl@Mn@Char\nSqsubset              {MnSyD}{\mathrel}
\Decl@Mn@Char\nSqsupset              {MnSyD}{\mathrel}
\Decl@Mn@Char\nsubset                {MnSyD}{\mathrel}
\Decl@Mn@Char\nsupset                {MnSyD}{\mathrel}
\Decl@Mn@Char\nsubseteq              {MnSyD}{\mathrel}
\Decl@Mn@Char\nsupseteq              {MnSyD}{\mathrel}
\Decl@Mn@Char\nsubseteqq             {MnSyD}{\mathrel}
\Decl@Mn@Char\nsupseteqq             {MnSyD}{\mathrel}
\Decl@Mn@Char\nSubset                {MnSyD}{\mathrel}
\Decl@Mn@Char\nSupset                {MnSyD}{\mathrel}
\Decl@Mn@Char\nprec                  {MnSyD}{\mathrel}
\Decl@Mn@Char\nsucc                  {MnSyD}{\mathrel}
\Decl@Mn@Char\npreceq                {MnSyD}{\mathrel}
\Decl@Mn@Char\nsucceq                {MnSyD}{\mathrel}
\Decl@Mn@Char\npreccurlyeq           {MnSyD}{\mathrel}
\Decl@Mn@Char\nsucccurlyeq           {MnSyD}{\mathrel}
\Decl@Mn@Char\nprecsim               {MnSyD}{\mathrel}
\Decl@Mn@Char\nsuccsim               {MnSyD}{\mathrel}
\Decl@Mn@Char\nprecapprox            {MnSyD}{\mathrel}
\Decl@Mn@Char\nsuccapprox            {MnSyD}{\mathrel}
\Decl@Mn@Char\nlessdot               {MnSyD}{\mathrel}
\Decl@Mn@Char\ngtrdot                {MnSyD}{\mathrel}
\Decl@Mn@Char\nleqdot                {MnSyD}{\mathrel}
\Decl@Mn@Char\ngeqdot                {MnSyD}{\mathrel}
\Decl@Mn@Char\nleqslantdot           {MnSyD}{\mathrel}
\Decl@Mn@Char\ngeqslantdot           {MnSyD}{\mathrel}
\Decl@Mn@Char\lneqq                  {MnSyD}{\mathrel}
  \Decl@Mn@Alias\lvertneqq           {MnSyD}{\mathrel}
\Decl@Mn@Char\gneqq                  {MnSyD}{\mathrel}
  \Decl@Mn@Alias\gvertneqq           {MnSyD}{\mathrel}
\Decl@Mn@Char\lessneqqgtr            {MnSyD}{\mathrel}
\Decl@Mn@Char\gtrneqqless            {MnSyD}{\mathrel}
\Decl@Mn@Char\sqsubsetneq            {MnSyD}{\mathrel}
\Decl@Mn@Char\sqsupsetneq            {MnSyD}{\mathrel}
\Decl@Mn@Char\sqsubsetneqq           {MnSyD}{\mathrel}
\Decl@Mn@Char\sqsupsetneqq           {MnSyD}{\mathrel}
\Decl@Mn@Char\subsetneq              {MnSyD}{\mathrel}
  \Decl@Mn@Alias\varsubsetneq        {MnSyD}{\mathrel}
\Decl@Mn@Char\supsetneq              {MnSyD}{\mathrel}
  \Decl@Mn@Alias\varsupsetneq        {MnSyD}{\mathrel}
\Decl@Mn@Char\subsetneqq             {MnSyD}{\mathrel}
  \Decl@Mn@Alias\varsubsetneqq       {MnSyD}{\mathrel}
\Decl@Mn@Char\supsetneqq             {MnSyD}{\mathrel}
  \Decl@Mn@Alias\varsupsetneqq       {MnSyD}{\mathrel}
\Decl@Mn@Char\precnsim               {MnSyD}{\mathrel}
```

```
\Decl@Mn@Char\succnsim               {MnSyD}{\mathrel}
\Decl@Mn@Char\precnapprox            {MnSyD}{\mathrel}
\Decl@Mn@Char\succnapprox            {MnSyD}{\mathrel}

\DeclareRobustCommand{\coloneq}{\mathrel{{\vdotdot}{\equal}}}
```

MnSymbolF: Big operators.

```
\Set@Mn@Sym{0}
\Decl@Mn@Char\tbigplus                   {symbols}{\mathop}
\Decl@Mn@Char\dbigplus                   {symbols}{\mathop}
\Decl@Mn@Char\tbigtimes                  {symbols}{\mathop}
\Decl@Mn@Char\dbigtimes                  {symbols}{\mathop}
\Decl@Mn@Char\tbigwedge                  {symbols}{\mathop}
\Decl@Mn@Char\dbigwedge                  {symbols}{\mathop}
\Decl@Mn@Char\tbigvee                    {symbols}{\mathop}
\Decl@Mn@Char\dbigvee                    {symbols}{\mathop}
\Decl@Mn@Char\tbigwedgedot               {symbols}{\mathop}
\Decl@Mn@Char\dbigwedgedot               {symbols}{\mathop}
\Decl@Mn@Char\tbigveedot                 {symbols}{\mathop}
\Decl@Mn@Char\dbigveedot                 {symbols}{\mathop}
\Decl@Mn@Char\tbigdoublewedge            {symbols}{\mathop}
\Decl@Mn@Char\dbigdoublewedge            {symbols}{\mathop}
\Decl@Mn@Char\tbigdoublevee              {symbols}{\mathop}
\Decl@Mn@Char\dbigdoublevee              {symbols}{\mathop}
\Decl@Mn@Char\tbigcurlywedge             {symbols}{\mathop}
\Decl@Mn@Char\dbigcurlywedge             {symbols}{\mathop}
\Decl@Mn@Char\tbigcurlyvee               {symbols}{\mathop}
\Decl@Mn@Char\dbigcurlyvee               {symbols}{\mathop}
\Decl@Mn@Char\tbigcurlywedgedot          {symbols}{\mathop}
\Decl@Mn@Char\dbigcurlywedgedot          {symbols}{\mathop}
\Decl@Mn@Char\tbigcurlyveedot            {symbols}{\mathop}
\Decl@Mn@Char\dbigcurlyveedot            {symbols}{\mathop}
\Decl@Mn@Char\tbigdoublecurlywedge       {symbols}{\mathop}
\Decl@Mn@Char\dbigdoublecurlywedge       {symbols}{\mathop}
\Decl@Mn@Char\tbigdoublecurlyvee         {symbols}{\mathop}
\Decl@Mn@Char\dbigdoublecurlyvee         {symbols}{\mathop}
\Decl@Mn@Char\tbigcap                    {symbols}{\mathop}
\Decl@Mn@Char\dbigcap                    {symbols}{\mathop}
\Decl@Mn@Char\tbigcup                    {symbols}{\mathop}
\Decl@Mn@Char\dbigcup                    {symbols}{\mathop}
\Decl@Mn@Char\tbigcapdot                 {symbols}{\mathop}
\Decl@Mn@Char\dbigcapdot                 {symbols}{\mathop}
\Decl@Mn@Char\tbigcupdot                 {symbols}{\mathop}
\Decl@Mn@Char\dbigcupdot                 {symbols}{\mathop}
\Decl@Mn@Char\tbigcapplus                {symbols}{\mathop}
\Decl@Mn@Char\dbigcapplus                {symbols}{\mathop}
\Decl@Mn@Char\tbigcupplus                {symbols}{\mathop}
\Decl@Mn@Char\dbigcupplus                {symbols}{\mathop}
\Decl@Mn@Char\tbigsqcap                  {symbols}{\mathop}
\Decl@Mn@Char\dbigsqcap                  {symbols}{\mathop}
\Decl@Mn@Char\tbigsqcup                  {symbols}{\mathop}
\Decl@Mn@Char\dbigsqcup                  {symbols}{\mathop}
\Decl@Mn@Char\tbigsqcapdot               {symbols}{\mathop}
\Decl@Mn@Char\dbigsqcapdot               {symbols}{\mathop}
\Decl@Mn@Char\tbigsqcupdot               {symbols}{\mathop}
```

```
\Decl@Mn@Char\dbigsqcupdot              {symbols}{\mathop}
\Decl@Mn@Char\tbigsqcapplus             {symbols}{\mathop}
\Decl@Mn@Char\dbigsqcapplus             {symbols}{\mathop}
\Decl@Mn@Char\tbigsqcupplus             {symbols}{\mathop}
\Decl@Mn@Char\dbigsqcupplus             {symbols}{\mathop}
\Decl@Mn@Char\tbigcircle                {symbols}{\mathop}
\Decl@Mn@Char\dbigcircle                {symbols}{\mathop}
\Decl@Mn@Char\tbigominus                {symbols}{\mathop}
\Decl@Mn@Char\dbigominus                {symbols}{\mathop}
\Decl@Mn@Char\tbigovert                 {symbols}{\mathop}
\Decl@Mn@Char\dbigovert                 {symbols}{\mathop}
\Decl@Mn@Char\tbigoslash                {symbols}{\mathop}
\Decl@Mn@Char\dbigoslash                {symbols}{\mathop}
\Decl@Mn@Char\tbigobackslash            {symbols}{\mathop}
\Decl@Mn@Char\dbigobackslash            {symbols}{\mathop}
\Decl@Mn@Char\tbigoplus                 {symbols}{\mathop}
\Decl@Mn@Char\dbigoplus                 {symbols}{\mathop}
\Decl@Mn@Char\tbigotimes                {symbols}{\mathop}
\Decl@Mn@Char\dbigotimes                {symbols}{\mathop}
\Decl@Mn@Char\tbigodot                  {symbols}{\mathop}
\Decl@Mn@Char\dbigodot                  {symbols}{\mathop}
\Decl@Mn@Char\tbigocirc                 {symbols}{\mathop}
\Decl@Mn@Char\dbigocirc                 {symbols}{\mathop}
\Decl@Mn@Char\tbigotriangle             {symbols}{\mathop}
\Decl@Mn@Char\dbigotriangle             {symbols}{\mathop}
\Decl@Mn@Char\tbigoast                  {symbols}{\mathop}
\Decl@Mn@Char\dbigoast                  {symbols}{\mathop}
\Decl@Mn@Char\tbigostar                 {symbols}{\mathop}
\Decl@Mn@Char\dbigostar                 {symbols}{\mathop}
\Decl@Mn@Char\tprod                     {symbols}{\mathop}
\Decl@Mn@Char\dprod                     {symbols}{\mathop}
\Decl@Mn@Char\tcoprod                   {symbols}{\mathop}
\Decl@Mn@Char\dcoprod                   {symbols}{\mathop}
\Decl@Mn@Char\tsum                      {symbols}{\mathop}
\Decl@Mn@Char\dsum                      {symbols}{\mathop}
\Decl@Mn@Char\tint                      {symbols}{\mathop}
\Decl@Mn@Char\dint                      {symbols}{\mathop}
\Decl@Mn@Char\tiint                     {symbols}{\mathop}
\Decl@Mn@Char\diint                     {symbols}{\mathop}
\Decl@Mn@Char\tiiint                    {symbols}{\mathop}
\Decl@Mn@Char\diiint                    {symbols}{\mathop}
\Decl@Mn@Char\tiiiint                   {symbols}{\mathop}
\Decl@Mn@Char\diiiint                   {symbols}{\mathop}
\Decl@Mn@Char\tidotsint                 {symbols}{\mathop}
\Decl@Mn@Char\didotsint                 {symbols}{\mathop}
\Decl@Mn@Char\tlandupint                {symbols}{\mathop}
\Decl@Mn@Char\dlandupint                {symbols}{\mathop}
\Decl@Mn@Char\tlanddownint              {symbols}{\mathop}
\Decl@Mn@Char\dlanddownint              {symbols}{\mathop}
\Decl@Mn@Char\tstrokedint               {symbols}{\mathop}
\Decl@Mn@Char\dstrokedint               {symbols}{\mathop}
\Decl@Mn@Char\toint                     {symbols}{\mathop}
\Decl@Mn@Char\doint                     {symbols}{\mathop}
\Decl@Mn@Char\toiint                    {symbols}{\mathop}
```

```
\Decl@Mn@Char\doiint                    {symbols}{\mathop}
\Decl@Mn@Char\trcirclerightint          {symbols}{\mathop}
\Decl@Mn@Char\drcirclerightint          {symbols}{\mathop}
\Decl@Mn@Char\tlcirclerightint          {symbols}{\mathop}
\Decl@Mn@Char\dlcirclerightint          {symbols}{\mathop}
\Decl@Mn@Char\trcircleleftint           {symbols}{\mathop}
\Decl@Mn@Char\drcircleleftint           {symbols}{\mathop}
\Decl@Mn@Char\tlcircleleftint           {symbols}{\mathop}
\Decl@Mn@Char\dlcircleleftint           {symbols}{\mathop}
\Decl@Mn@Char\tsumint                   {symbols}{\mathop}
\Decl@Mn@Char\dsumint                   {symbols}{\mathop}
\Decl@Mn@Char\partialvartint            {symbols}{\mathop}
\Decl@Mn@Char\partialvardint            {symbols}{\mathop}
\Decl@Mn@Char\partialvartlandupint      {symbols}{\mathop}
\Decl@Mn@Char\partialvardlandupint      {symbols}{\mathop}
\Decl@Mn@Char\partialvartlanddownint    {symbols}{\mathop}
\Decl@Mn@Char\partialvardlanddownint    {symbols}{\mathop}
\Decl@Mn@Char\partialvartstrokedint     {symbols}{\mathop}
\Decl@Mn@Char\partialvardstrokedint     {symbols}{\mathop}
\Decl@Mn@Char\partialvartoint           {symbols}{\mathop}
\Decl@Mn@Char\partialvardoint           {symbols}{\mathop}
\Decl@Mn@Char\partialvartoiint          {symbols}{\mathop}
\Decl@Mn@Char\partialvardoiint          {symbols}{\mathop}
\Decl@Mn@Char\partialvartrcirclerightint{symbols}{\mathop}
\Decl@Mn@Char\partialvardrcirclerightint{symbols}{\mathop}
\Decl@Mn@Char\partialvartlcirclerightint{symbols}{\mathop}
\Decl@Mn@Char\partialvardlcirclerightint{symbols}{\mathop}
\Decl@Mn@Char\partialvartrcircleleftint {symbols}{\mathop}
\Decl@Mn@Char\partialvardrcircleleftint {symbols}{\mathop}
\Decl@Mn@Char\partialvartlcircleleftint {symbols}{\mathop}
\Decl@Mn@Char\partialvardlcircleleftint {symbols}{\mathop}
\Decl@Mn@Char\partialvartsumint         {symbols}{\mathop}
\Decl@Mn@Char\partialvardsumint         {symbols}{\mathop}
\Decl@Mn@Char\tcomplement               {symbols}{\mathop}
\Decl@Mn@Char\dcomplement               {symbols}{\mathop}

\let\intop\tint
\let\ointop\toint
\Decl@Mn@Int\iint\diint\tiint
\Decl@Mn@Int\iiint\diiint\tiiint
\Decl@Mn@Int\iiiint\diiiint\tiiiint
\Decl@Mn@Int\idotsint\didotsint\tidotsint
\Decl@Mn@Int\landupint\dlandupint\tlandupint
\Decl@Mn@Int\landdownint\dlanddownint\tlanddownint
\Decl@Mn@Int\strokedint\dstrokedint\tstrokedint
\Decl@Mn@Int\oiint\doiint\toiint
\Decl@Mn@Int\rcirclerightint\drcirclerightint\trcirclerightint
\Decl@Mn@Int\lcirclerightint\dlcirclerightint\tlcirclerightint
\Decl@Mn@Int\rcircleleftint\drcircleleftint\trcircleleftint
\Decl@Mn@Int\lcircleleftint\dlcircleleftint\tlcircleleftint
\Decl@Mn@Int\sumint\dsumint\tsumint

\def\intkern@{\mkern-10mu\mathchoice{\mkern-6mu}{}{}{}}
\def\intdots@{\mkern-7mu%
```

```
  \mathchoice{\mkern-3mu\@cdots\mkern-3mu}%
  {{\cdotp}\mkern0.5mu{\cdotp}\mkern0.5mu{\cdotp}}%
  {{\cdotp}{\cdotp}{\cdotp}}%
  {{\cdotp}{\cdotp}{\cdotp}}%
  \mkern-6mu}

\Decl@Mn@Op\bigplus\dbigplus\tbigplus
\Decl@Mn@Op\bigtimes\dbigtimes\tbigtimes
\Decl@Mn@Op\bigwedge\dbigwedge\tbigwedge
\Decl@Mn@Op\bigvee\dbigvee\tbigvee
\Decl@Mn@Op\bigwedgedot\dbigwedgedot\tbigwedgedot
\Decl@Mn@Op\bigveedot\dbigveedot\tbigveedot
\Decl@Mn@Op\bigdoublewedge\dbigdoublewedge\tbigdoublewedge
\Decl@Mn@Op\bigdoublevee\dbigdoublevee\tbigdoublevee
\Decl@Mn@Op\bigcurlywedge\dbigcurlywedge\tbigcurlywedge
\Decl@Mn@Op\bigcurlyvee\dbigcurlyvee\tbigcurlyvee
\Decl@Mn@Op\bigcurlywedgedot\dbigcurlywedgedot\tbigcurlywedgedot
\Decl@Mn@Op\bigcurlyveedot\dbigcurlyveedot\tbigcurlyveedot
\Decl@Mn@Op\bigdoublecurlywedge\dbigdoublecurlywedge\tbigdoublecurlywedge
\Decl@Mn@Op\bigdoublecurlyvee\dbigdoublecurlyvee\tbigdoublecurlyvee
\Decl@Mn@Op\bigcap\dbigcap\tbigcap
\Decl@Mn@Op\bigcup\dbigcup\tbigcup
\Decl@Mn@Op\bigcapdot\dbigcapdot\tbigcapdot
\Decl@Mn@Op\bigcupdot\dbigcupdot\tbigcupdot
\Decl@Mn@Op\bigcapplus\dbigcapplus\tbigcapplus
\Decl@Mn@Op\bigcupplus\dbigcupplus\tbigcupplus
  \let\biguplus\bigcupplus
\Decl@Mn@Op\bigsqcap\dbigsqcap\tbigsqcap
\Decl@Mn@Op\bigsqcup\dbigsqcup\tbigsqcup
\Decl@Mn@Op\bigsqcapdot\dbigsqcapdot\tbigsqcapdot
\Decl@Mn@Op\bigsqcupdot\dbigsqcupdot\tbigsqcupdot
\Decl@Mn@Op\bigsqcapplus\dbigsqcapplus\tbigsqcapplus
\Decl@Mn@Op\bigsqcupplus\dbigsqcupplus\tbigsqcupplus
\Decl@Mn@Op\bigcircle\dbigcircle\tbigcircle
\Decl@Mn@Op\bigominus\dbigominus\tbigominus
\Decl@Mn@Op\bigovert\dbigovert\tbigovert
\Decl@Mn@Op\bigoslash\dbigoslash\tbigoslash
\Decl@Mn@Op\bigobackslash\dbigobackslash\tbigobackslash
\Decl@Mn@Op\bigoplus\dbigoplus\tbigoplus
\Decl@Mn@Op\bigotimes\dbigotimes\tbigotimes
\Decl@Mn@Op\bigodot\dbigodot\tbigodot
\Decl@Mn@Op\bigocirc\dbigocirc\tbigocirc
\Decl@Mn@Op\bigotriangle\dbigotriangle\tbigotriangle
\Decl@Mn@Op\bigoast\dbigoast\tbigoast
\Decl@Mn@Op\bigostar\dbigostar\tbigostar
\Decl@Mn@Op\sum\dsum\tsum
\Decl@Mn@Op\prod\dprod\tprod
\Decl@Mn@Op\coprod\dcoprod\tcoprod
\Decl@Mn@Op\complement\dcomplement\tcomplement
```

Delimiters.

```
\let\lfloor\undefined
\let\rfloor\undefined
\let\lceil\undefined
\let\rceil\undefined
```

```
\let\langle\undefined
\let\rangle\undefined

\Decl@Mn@Open {[}                   {largesymbols}{'000}
\Decl@Mn@Close{]}                   {largesymbols}{'005}
\Decl@Mn@Open {\lfloor}             {largesymbols}{'012}
\Decl@Mn@Close{\rfloor}             {largesymbols}{'017}
\Decl@Mn@Open {\lceil}              {largesymbols}{'024}
\Decl@Mn@Close{\rceil}              {largesymbols}{'031}
\Decl@Mn@Open {\ulcorner}           {largesymbols}{'036}
\Decl@Mn@Close{\urcorner}           {largesymbols}{'043}
\Decl@Mn@Open {\llcorner}           {largesymbols}{'050}
\Decl@Mn@Close{\lrcorner}           {largesymbols}{'055}
\Decl@Mn@Open {\ullcorner}          {largesymbols}{'062}
\Decl@Mn@Close{\ulrcorner}          {largesymbols}{'067}
\Decl@Mn@Open {\lsem}               {largesymbols}{'102}
\Decl@Mn@Close{\rsem}               {largesymbols}{'107}
\Decl@Mn@Delim{|}         {\mathord}{largesymbols}{'123}
\Decl@Mn@Delim{\vert}     {\mathord}{largesymbols}{'123}
\Decl@Mn@Delim{\mvert}    {\mathrel}{largesymbols}{'123}
  \let\mid\mvert
\Decl@Mn@Open {\lvert}              {largesymbols}{'123}
\Decl@Mn@Close{\rvert}              {largesymbols}{'123}
\Decl@Mn@Delim{\Vert}     {\mathord}{largesymbols}{'131}
  \let\|\Vert
\Decl@Mn@Delim{\mVert}    {\mathrel}{largesymbols}{'131}
\Decl@Mn@Open {\lVert}              {largesymbols}{'131}
\Decl@Mn@Close{\rVert}              {largesymbols}{'131}
\Decl@Mn@Delim{\arrowvert}{\mathord}{largesymbols}{'122}
\Decl@Mn@Delim{\Arrowvert}{\mathord}{largesymbols}{'130}
\Decl@Mn@Open {\lwavy}              {largesymbols}{'136}
\Decl@Mn@Close{\rwavy}              {largesymbols}{'136}
\Decl@Mn@Open {\lWavy}              {largesymbols}{'137}
\Decl@Mn@Close{\rWavy}              {largesymbols}{'137}

\Decl@Mn@Open {<}                   {largesymbols}{'140}
\Decl@Mn@Close{>}                   {largesymbols}{'145}
\Decl@Mn@Open {\langle}             {largesymbols}{'140}
\Decl@Mn@Close{\rangle}             {largesymbols}{'145}
\Decl@Mn@Open {\langlebar}          {largesymbols}{'152}
\Decl@Mn@Close{\ranglebar}          {largesymbols}{'157}
\Decl@Mn@Open {\llangle}            {largesymbols}{'164}
\Decl@Mn@Close{\rrangle}            {largesymbols}{'171}
\Decl@Mn@Delim{/}         {\mathord}{largesymbols}{'176}
\Decl@Mn@Delim{\backslash}{\mathord}{largesymbols}{'203}
\expandafter\DeclareMathDelimiter\@backslashchar
                          {\mathord}{largesymbols}{'203}{largesymbols}{'203}
\Decl@Mn@Open {(}                   {largesymbols}{'210}
\Decl@Mn@Close{)}                   {largesymbols}{'215}
\Decl@Mn@Open {\lbrace}             {largesymbols}{'230}
\Decl@Mn@Close{\rbrace}             {largesymbols}{'235}
\Decl@Mn@Close{\lgroup}             {largesymbols}{'242}
\Decl@Mn@Open {\rgroup}             {largesymbols}{'243}
\Decl@Mn@Close{\rmoustache}         {largesymbols}{'244}
```

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

Support for expandable braces.

```
\DeclareMathSymbol{\downbrace}    {\mathord}{largesymbols}{'251}
\DeclareMathSymbol{\downbraceg}   {\mathord}{largesymbols}{'252}
\DeclareMathSymbol{\downbracegg}  {\mathord}{largesymbols}{'253}
\DeclareMathSymbol{\downbraceggg} {\mathord}{largesymbols}{'254}
\DeclareMathSymbol{\downbracegggg}{\mathord}{largesymbols}{'255}
\DeclareMathSymbol{\upbrace}      {\mathord}{largesymbols}{'256}
\DeclareMathSymbol{\upbraceg}     {\mathord}{largesymbols}{'257}
\DeclareMathSymbol{\upbracegg}    {\mathord}{largesymbols}{'260}
\DeclareMathSymbol{\upbraceggg}   {\mathord}{largesymbols}{'261}
\DeclareMathSymbol{\upbracegggg}  {\mathord}{largesymbols}{'262}
\DeclareMathSymbol{\braceld}      {\mathord}{largesymbols}{'263}
\DeclareMathSymbol{\bracelu}      {\mathord}{largesymbols}{'264}
\DeclareMathSymbol{\bracerd}      {\mathord}{largesymbols}{'265}
\DeclareMathSymbol{\braceru}      {\mathord}{largesymbols}{'266}
\DeclareMathSymbol{\bracemd}      {\mathord}{largesymbols}{'267}
\DeclareMathSymbol{\bracemu}      {\mathord}{largesymbols}{'270}
\DeclareMathSymbol{\bracemid}     {\mathord}{largesymbols}{'271}

\let\uparrow\undefined
\let\downarrow\undefined
\let\updownarrow\undefined
\let\Uparrow\undefined
\let\Downarrow\undefined
\let\Updownarrow\undefined
\DeclareMathDelimiter{\uparrow}    {\mathrel}{MnSyA}{'001}{largesymbols}{'325}
\DeclareMathDelimiter{\downarrow}  {\mathrel}{MnSyA}{'003}{largesymbols}{'326}
\DeclareMathDelimiter{\updownarrow}{\mathrel}{MnSyA}{'021}{largesymbols}{'327}
\DeclareMathDelimiter{\Uparrow}    {\mathrel}{MnSyA}{'011}{largesymbols}{'330}
\DeclareMathDelimiter{\Downarrow}  {\mathrel}{MnSyA}{'013}{largesymbols}{'331}
\DeclareMathDelimiter{\Updownarrow}{\mathrel}{MnSyA}{'025}{largesymbols}{'332}


% \horiz@expandable{sym1}..{sym6}{style}{arg}

\def\horiz@expandable#1#2#3#4#5#6#7#8{%
  \@mathmeasure\z@#7{#8}%
  \@tempdima=\wd\z@
  \@mathmeasure\z@#7{#1}%
  \ifdim\noexpand\wd\z@>\@tempdima
    $\m@th#7#1$%
  \else
    \@mathmeasure\z@#7{#2}%
    \ifdim\noexpand\wd\z@>\@tempdima
      $\m@th#7#2$%
    \else
      \@mathmeasure\z@#7{#3}%
      \ifdim\noexpand\wd\z@>\@tempdima
        $\m@th#7#3$%
      \else
        \@mathmeasure\z@#7{#4}%
        \ifdim\noexpand\wd\z@>\@tempdima
```

```
          $\m@th#7#4$%
        \else
          \@mathmeasure\z@#7{#5}%
          \ifdim\noexpand\wd\z@>\@tempdima
            $\m@th#7#5$%
          \else
           #6#7%
          \fi
        \fi
      \fi
    \fi
  \fi}

\def\overbrace@expandable#1#2#3{\vbox{\m@th\ialign{##\crcr
  #1#2{#3}\crcr\noalign{\kern2\p@\nointerlineskip}%
  $\m@th\hfil#2#3\hfil$\crcr}}}
\def\underbrace@expandable#1#2#3{\vtop{\m@th\ialign{##\crcr
  $\m@th\hfil#2#3\hfil$\crcr
  \noalign{\kern2\p@\nointerlineskip}%
  #1#2{#3}\crcr}}}

\def\overbrace@#1#2#3{\vbox{\m@th\ialign{##\crcr
  #1#2\crcr\noalign{\kern2\p@\nointerlineskip}%
  $\m@th\hfil#2#3\hfil$\crcr}}}
\def\underbrace@#1#2#3{\vtop{\m@th\ialign{##\crcr
  $\m@th\hfil#2#3\hfil$\crcr
  \noalign{\kern2\p@\nointerlineskip}%
  #1#2\crcr}}}

\def\bracefill@#1#2#3#4#5{$\m@th#5#1\leaders\hbox{$#4$}\hfill#2\leaders\hbox{$#4$}\hfill#3$}

\def\downbracefill@{\bracefill@\braceld\bracemd\bracerd\bracemid}
\def\upbracefill@{\bracefill@\bracelu\bracemu\braceru\bracemid}
\def\downgroupfill@{\bracefill@\braceld{}\bracerd\bracemid}
\def\upgroupfill@{\bracefill@\bracelu{}\braceru\bracemid}
\def\linesegmentfill@{\arrowfill@\leftfootline\relbar\rightfootline}
\def\leftharpoonfill@{\arrowfill@\leftharpoondown\relbar\relbar}
\def\rightharpoonfill@{\arrowfill@\relbar\relbar\rightharpoonup}

\DeclareRobustCommand{\downbracefill}{\downbracefill@\textstyle}
\DeclareRobustCommand{\upbracefill}{\upbracefill@\textstyle}

\def\upbrace@expandable{%
  \horiz@expandable
    \upbrace
    \upbraceg
    \upbracegg
    \upbraceggg
    \upbracegggg
    \upbracefill@}
\def\downbrace@expandable{%
  \horiz@expandable
    \downbrace
    \downbraceg
```

```
    \downbracegg
    \downbraceggg
    \downbracegggg
    \downbracefill@}

\DeclareRobustCommand{\overbrace}[1]{\mathop{\mathpalette{\overbrace@expandable\downbrace@expandable}{#1}}\limits}
\DeclareRobustCommand{\underbrace}[1]{\mathop{\mathpalette{\underbrace@expandable\upbrace@expandable}{#1}}\limits}

\DeclareRobustCommand{\overgroup}{\mathpalette{\overbrace@\downgroupfill@}}
\DeclareRobustCommand{\undergroup}{\mathpalette{\underbrace@\upgroupfill@}}
\DeclareRobustCommand{\overlinesegment}{\mathpalette{\overarrow@\linesegmentfill@}}
\DeclareRobustCommand{\overleftharpoon}{\mathpalette{\overarrow@\leftharpoonfill@}}
\DeclareRobustCommand{\overrightharpoon}{\mathpalette{\overarrow@\rightharpoonfill@}}
\DeclareRobustCommand{\underlinesegment}{\mathpalette{\underarrow@\linesegmentfill@}}
```

Mathchars.

```
\DeclareMathSymbol{=}{\mathrel}  {MnSyD}{'000}
\DeclareMathSymbol{<}{\mathrel}  {MnSyD}{'100}
\DeclareMathSymbol{>}{\mathrel}  {MnSyD}{'101}
\DeclareMathSymbol{+}{\mathbin}  {MnSyC}{'024}
\DeclareMathSymbol{-}{\mathbin}  {MnSyC}{'020}
\DeclareMathSymbol{*}{\mathbin}  {MnSyC}{'207}
\DeclareMathSymbol{|}{\mathord}  {largesymbols}{'123}
\DeclareMathSymbol{(}{\mathopen} {largesymbols}{'210}
\DeclareMathSymbol{)}{\mathclose}{largesymbols}{'215}
\DeclareMathSymbol{:}{\mathrel}  {MnSyC}{'002}
\DeclareMathSymbol{[}{\mathopen} {largesymbols}{'000}
\DeclareMathSymbol{]}{\mathclose}{largesymbols}{'005}
\DeclareMathSymbol{/}{\mathord}  {largesymbols}{'176}

\DeclareMathRadical{\sqrtsign}{largesymbols}{'272}{largesymbols}{'272}
\DeclareRobustCommand{\surd}{{\mathchar'11672}}

\DeclareMathAccent{\widehat}{\mathord}{largesymbols}{'302}
\DeclareMathAccent{\widetilde}{\mathord}{largesymbols}{'307}
\DeclareMathAccent{\wideparen}{\mathord}{largesymbols}{'314}
\DeclareMathAccent{\vec}{\mathord}{largesymbols}{'321}
\DeclareMathAccent{\middlebar}{\mathord}{largesymbols}{'322}
\DeclareMathAccent{\middleslash}{\mathord}{largesymbols}{'323}
\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.

```
%\def\overstrike#1#2{%
%  \mathchoice
%    {\@overstrike\displaystyle{#1}{#2}}%
%    {\@overstrike\textstyle{#1}{#2}}%
%    {\@overstrike\scriptstyle{#1}{#2}}%
%    {\@overstrike\scriptscriptstyle{#1}{#2}}%
%  #2}
%\def\@overstrike#1#2#3{%
%  {\setbox0\hbox{$\m@th#1#3$}%
%   \hbox to \wd0{\hss$\m@th#1#2$\hss}%
%   \kern-\wd0}}
```

```
%\def\not#1{\mathrel{\overstrike{/}{#1}}}
\def\c@ncel#1#2{\m@th\ooalign{$\hfil#1/\hfil$\crcr$#1#2$}}
\def\not#1{\mathrel{\m@th\mathpalette\c@ncel{#1}}}
%
%\renewcommand{\AmSfont}{%
%  \usefont{OMS}{MnSymbolS}{\if\@xp\@car\f@series\@nil bb\else m\fi}{n}}
⟨/style⟩
```