

# The stix package

STI Pub Companies

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# 1 Introduction

The mission of the *Scientific and Technical Information Exchange (STIX)* font creation project is the preparation of a comprehensive set of fonts that serve the scientific and engineering community in the process from manuscript creation through final publication, both in electronic and print formats. Toward this purpose, the STIX fonts will be made available, under royalty-free license, to anyone, including publishers, software developers, scientists, students, and the general public.

The STIX fonts are based on the Unicode standard for character representation. Not all Unicode values are included in the STIX Fonts, but there is extensive coverage of Latin alphabets, Greek, and Cyrillic. The Font contents were assembled from a list of every character/glyph required for publication in the journals of the participating STI Pub companies. Every scientific discipline is represented in this list, as well as many other fields from the arts and humanities.

Most of the glyphs in the STIX Fonts have been designed in Times-compatible style.

The stix package provides L<sup>A</sup>T<sub>E</sub>X support for using STIX fonts in both text and math. The text fonts are provided in both T1 (default) and OT1 encodings, as well as TS1 symbol font encoding, which cover only a subset of Latin characters supported by STIX fonts. The math support covers nearly every mathematical symbol in STIX fonts, around 2400 symbols in 11 regular fonts, in addition to around 1950 symbols in 10 bold fonts. Section 3 lists math alphabets supported by the stix package, while section 4 lists all defined math symbols. There are also three fonts containing extra miscellaneous symbols, `stix-extra1`, `stix-extra2` and `stix-extra3`, provided as TFM and PFB files without support from the macro package.

## 2 Usage

Using STIX fonts with L<sup>A</sup>T<sub>E</sub>X is as simple as loading the stix package:

```
\documentclass{article}
\usepackage{stix}
\begin{document}
Some text, and a math formula  $(a+b=\sqrt{c})$ .
\end{document}
```

### 2.1 Options

<code>notext</code>	Do not change the default text fonts.
<code>nomath</code>	Do not change the default math fonts.
<code>not1</code>	Do not change the default font encoding to T1.
<code>notextcomp</code>	Do not load the textcomp package (provides symbols and oldstyle figures from TS1 encoding to be used with T1 encoded text fonts).
<code>lcgreekalpha</code>	By default lower case Greek, partial differential and nabla are given <code>\mathord</code> class which makes them insensitive to math alphabet changes (i.e. <code>\mathbf{\beta}</code> gives $\beta$ instead of $\boldsymbol{\beta}$ ); with this option they will be given <code>\mathalpha</code> class just like Latin and upper case Greek.
<code>upint</code>	Use upright integrals by default ( $\int$ instead of $\int$ ). See Section 4.6 on page 18 for more details.

## 2.2 Compatibility with other packages

### amsmath

The stix package should be used with at least amsmath v2.14, amssymb v3.01 and amsfonts v3.01.

With amsmath v2.14 or newer, it is recommended to load it (and/or packages that load it) *after* the stix package. Older versions of amsmath must be loaded *before* the stix package, otherwise errors will arise.

The following amsmath options affect not only symbols known to amsmath, but also new symbols defined by the stix package: `sumlimits`, `nosumlimits`, `intlimits` and `nointlimits`.

## 2.3 Feedback

Bug reports and technical support issues should be reported to <http://sourceforge.net/projects/stixfonts/>.

## 3 Math alphabets

The following table lists math alphabets defined by the stix package with the Unicode ranges they cover:

	A–Z	a–z	Γ–Ω	α–ω	0–9
* <code>\mathrm</code>	00041–0005A	00061–0007A	00393–003A9	003B1–003C9	00030–00039
* <code>\mathbf</code>	1D400–1D419	1D41A–1D433	1D6AA–1D6C0	1D6C2–1D6DA	1D7CE–1D7D7
* <code>\mathit</code>	1D434–1D44D	1D44E–1D467	1D6E4–1D6FA	1D6FC–1D714	-
* <code>\mathbf{fit}</code>	1D468–1D481	1D482–1D49B	1D71E–1D734	1D736–1D74E	-
* <code>\mathcal</code>	•	-	-	-	-
* <code>\mathscr</code>	1D49C–1D4B5	1D4B6–1D4CF	-	-	-
* <code>\mathbf{fscr}</code>	1D4D0–1D4E9	1D4EA–1D503	-	-	-
* <code>\mathsf</code>	1D5A0–1D5B9	1D5BA–1D5D3	•	•	1D7E2–1D7EB
* <code>\mathbf{fsf}</code>	1D5D4–1D5ED	1D5EE–1D607	1D758–1D76E	1D770–1D788	1D7EC–1D7F5
* <code>\mathsf{fit}</code>	1D608–1D621	1D622–1D63B	•	•	-
* <code>\mathbf{fsfit}</code>	1D63C–1D655	1D656–1D66F	1D792–1D7A8	1D7AA–1D7C2	-
* <code>\mathbb</code>	1D538–1D551	1D552–1D56B	-	-	1D7D8–1D7E1
* <code>\mathbf{fbb}</code>	•	•	-	-	-
* <code>\mathbf{fbb{it}}</code>	•	•	-	-	-
* <code>\mathbf{fbb{it}}</code>	•	•	-	-	-
* <code>\mathfrak</code>	1D504–1D51D	1D51E–1D537	-	-	-
* <code>\mathbf{ffrac}</code>	1D56C–1D585	1D586–1D59F	-	-	-
* <code>\mathtt</code>	1D670–1D689	1D68A–1D6A3	-	-	1D7F6–1D7FF

- Covered by STIX fonts but not in Unicode.
- Not covered.
- \* Available by default when loading the stix package.

$\mathrm{T}_{\mathrm{E}}\mathrm{X}$  allows only 16 math alphabets to be used simultaneously, so not all of these alphabets can be used in one document. When the stix package is loaded, 12 math groups are allocated, with the 11 math alphabets that are marked above available by default, which leaves room for 4 other math groups to be allocated on demand when any of the other alphabets is used.

## 4 Math symbols

The following section lists all math symbols defined by the stix package. Symbols with \* next to their name do not have a bold version; when `\boldmath` is active, the non-bold glyph will be used.

### 4.1 Alphabets

$\Gamma$	U+0393 \Gamma	$\mu$	U+03BC \mu
$\Delta$	U+0394 \Delta	$\nu$	U+03BD \nu
$\Theta$	U+0398 \Theta	$\xi$	U+03BE \xi
$\Lambda$	U+039B \Lambda	$\pi$	U+03C0 \pi
$\Xi$	U+039E \Xi	$\rho$	U+03C1 \rho
$\Pi$	U+03A0 \Pi	$\sigma$	U+03C3 \sigma
$\Sigma$	U+03A3 \Sigma	$\tau$	U+03C4 \tau
$\Upsilon$	U+03A5 \Upsilon	$\upsilon$	U+03C5 \upsilon
$\Phi$	U+03A6 \Phi	$\phi$	U+03D5 \phi
$\Psi$	U+03A8 \Psi	$\chi$	U+03C7 \chi
$\Omega$	U+03A9 \Omega	$\psi$	U+03C8 \psi
$\alpha$	U+03B1 \alpha	$\omega$	U+03C9 \omega
$\beta$	U+03B2 \beta	$\varepsilon$	U+03F5 \varepsilon
$\gamma$	U+03B3 \gamma	$\vartheta$	U+03D1 \vartheta
$\delta$	U+03B4 \delta	$\varpi$	U+03D6 \varpi
$\epsilon$	U+03B5 \epsilon	$\varrho$	U+03F1 \varrho
$\zeta$	U+03B6 \zeta	$\varsigma$	U+03C2 \varsigma
$\eta$	U+03B7 \eta	$\varphi$	U+03C6 \varphi
$\theta$	U+03B8 \theta	$\nabla$	U+2207 \nabla
$\iota$	U+03B9 \iota	$\partial$	U+2202 \partial
$\kappa$	U+03BA \kappa	$\imath$	U+1D6A4 \imath
$\lambda$	U+03BB \lambda	$j$	U+1D6A5 j

### 4.2 Ordinary symbols

$\#$	U+0023 \#	$\eth$	U+00F0 \eth
$\$$	U+0024 \\$	$\mathbb{Z}$	U+01B5 \mathbb{Z}
$\%$	U+0025 %	$\digamma$	U+03DD \digamma
$\&$	U+0026 \&	$\varkappa$	U+03F0 \varkappa
$\cdot$	U+002E \cdot	$\backepsilon$	U+03F6 \backepsilon
$/$	U+002F /	$\upbackepsilon$	U+03F6 \upbackepsilon
$?$	U+003F ?	$\ldots$	U+2025 \ldots
$@$	U+0040 @	$\mathcal{H}$	U+2026 \mathcal{H}
$\backslash$	U+005C \backslash	$\prime$	U+2032 \prime
$\pounds$	U+00A3 \pounds	$\dprime$	U+2033 \dprime
$\S$	U+00A7 \S	$\trprime$	U+2034 \trprime
$\neg$	U+00AC \neg	$\backprime$	U+2035 \backprime
$\P$	U+00B6 \P	$\backdprime$	U+2036 \backdprime

⋈	U+2037	\backtrprime	⇩	U+21E9	\downwhitearrow
^	U+2038	\caretinsert	⇧	U+21EA	\whitearrowupfrombar
!!	U+203C	\Exclam	∀	U+2200	\forallall
-	U+2043	\hyphenbullet*	℄	U+2201	\complement
??	U+2047	\Question	∃	U+2203	\exists
'''	U+2057	\qprime	∄	U+2204	\nexists
○	U+20DD	\enclosecircle	∅	U+2205	\varnothing
□	U+20DE	\enclosesquare*	∅	U+2205	\emptyset
◇	U+20DF	\enclosediamond*	Δ	U+2206	\increment
△	U+20E4	\enclosetriangle	■	U+220E	\QED*
ℰ	U+2107	\Eulerconst	∞	U+221E	\infty
ℏ	U+210F	\hbar*	└	U+221F	\rightangle
ℏ	U+210F	\hslash	∠	U+2220	\angle
ℑ	U+2111	\Im	∠	U+2221	\measuredangle
ℓ	U+2113	\ell	∠	U+2222	\sphericalangle
℘	U+2118	\wp	∴	U+2234	\therefore
ℜ	U+211C	\Re	∵	U+2235	\because
ℴ	U+2127	\mho	~	U+223F	\sinewave
ı	U+2129	\turnediota	⤴	U+22A4	\top
Å	U+212B	\Angstrom	⤵	U+22A5	\bot
ƒ	U+2132	\Finv	†	U+22B9	\hermitmatrix
ℵ	U+2135	\aleph	⊞	U+22BE	\measuredrightangle
β	U+2136	\beth	▵	U+22BF	\varltriangleright
ג	U+2137	\gimel	⋯	U+22EF	\cdots
ד	U+2138	\daleth	∅	U+2300	\diameter*
⊙	U+2141	\Game*	⬜	U+2302	\house
⌈	U+2142	\sansLturned*	⌊	U+2310	\invnot
⌋	U+2143	\sansLmirrored*	▣	U+2311	\sqlozenge*
⋈	U+2144	\Yup*	⌋	U+2312	\proflines*
⌚	U+214A	\PropertyLine*	⌋	U+2313	\profsurf*
↕	U+21A8	\updownarrowbar	⌋	U+2317	\viewdata*
↵	U+21B4	\linefeed	⌋	U+2319	\turnednot
↶	U+21B5	\carrierreturn	⬡	U+232C	\varhexagonlrbonds*
↷	U+21B8	\barovernorthwestarrow	▷	U+2332	\conictaper*
↸	U+21B9	\barleftarrowrightarrowbar	⌋	U+2336	\topbot
↻	U+21BA	\acwopencirclearrow	⋈	U+2340	\APLnotbackslash*
↻	U+21BB	\cwopencirclearrow	⌋	U+2353	\APLboxupcaret*
↗	U+21DE	\nHuparrow*	⌋	U+2370	\APLboxquestion*
↘	U+21DF	\nHdownarrow*	↗	U+237C	\rangledownzigzagarrow*
↔	U+21E0	\leftdasharrow*	⬡	U+2394	\hexagon*
↕	U+21E1	\updasharrow*	≡	U+23B6	\bbrktbrk
↔	U+21E2	\rightdasharrow*	↶	U+23CE	\varcarrierreturn*
↕	U+21E3	\downdasharrow*	⌋	U+23E0	\obrbrak
↔	U+21E6	\leftwhitearrow	⌋	U+23E1	\ubrbrak
↗	U+21E7	\upwhitearrow	▤	U+23E2	\trapezium*
↘	U+21E8	\rightwhitearrow	⬢	U+23E3	\benzenr*

	U+23E4 \strns*		U+25CA \mdlgwhtlozenge, \lozenge, \Diamond
	U+23E5 \fltns*		U+25CC \dottedcircle*
	U+23E6 \accurrent*		U+25CD \circleftvertfill*
	U+23E7 \elinters*		U+25CE \bullseye*
	U+2423 \mathvisiblespace		U+25CF \mdlgbklcircle*
	U+24C7 \circledR		U+25D0 \circlelefthalfblack*
	U+24C8 \circledS		U+25D1 \circclerighthalfblack*
	U+25A0 \mdlgbklsquare*, \blacksquare		U+25D2 \circlebottomhalfblack*
	U+25A1 \mdlgwhtsquare*, \square, \Box		U+25D3 \circletophalfblack*
	U+25A2 \squoval*		U+25D4 \circleurquadblack*
	U+25A3 \blackinwhitesquare*		U+25D5 \blackcircleulquadwhite*
	U+25A4 \squarehfill*		U+25D6 \blacklefthalfcircle*
	U+25A5 \squarevfill*		U+25D7 \blackrighthalfcircle*
	U+25A6 \squarehvfill*		U+25D8 \inversebullet*
	U+25A7 \squarenwsefill*		U+25D9 \inversewhitecircle*
	U+25A8 \squareneswfill*		U+25DA \invwhiteupperhalfcircle*
	U+25A9 \squarecrossfill*		U+25DB \invwhitelowerhalfcircle*
	U+25AA \smbklsquare*		U+25DC \ularc*
	U+25AB \smwhtsquare*		U+25DD \urarc*
	U+25AC \hrectangleblack*		U+25DE \lrarc*
	U+25AD \hrectangle*		U+25DF \llarc*
	U+25AE \vrectangleblack*		U+25E0 \topsemicircle*
	U+25AF \vrectangle*		U+25E1 \botsemicircle*
	U+25B0 \parallelogramblack*		U+25E2 \lrblacktriangle*
	U+25B1 \parallelogram*		U+25E3 \llblacktriangle*
	U+25B2 \bigblacktriangleup*		U+25E4 \ulblacktriangle*
	U+25B4 \blacktriangle*		U+25E5 \urblacktriangle*
	U+25B6 \blacktriangleright*		U+25E6 \circ, \smwhtcircle
	U+25B8 \smallblacktriangleright*		U+25E7 \squareleftblack*
	U+25B9 \smalltriangleright*		U+25E8 \squarerightblack*
	U+25BA \blackpointerright*		U+25E9 \squareulblack*
	U+25BB \whitepointerright*		U+25EA \squarelrblack*
	U+25BC \bigblacktriangledown*		U+25EC \trianglecdot
	U+25BD \bigtriangledown		U+25ED \triangleleftblack*
	U+25BE \blacktriangledown*		U+25EE \trianglerightblack*
	U+25BF \triangledown*		U+25EF \lgwhtcircle*
	U+25C0 \blacktriangleleft*		U+25F0 \squareulquad*
	U+25C2 \smallblacktriangleleft*		U+25F1 \squareellquad*
	U+25C3 \smalltriangleleft*		U+25F2 \squarelrquad*
	U+25C4 \blackpointerleft*		U+25F3 \squareurquad*
	U+25C5 \whitepointerleft*		U+25F4 \circleulquad*
	U+25C6 \mdlgbkldiamond*		U+25F5 \circlellquad*
	U+25C7 \mdlgwhtdiamond*		U+25F6 \circlelrquad*
	U+25C8 \blackinwhitediamond*		U+25F7 \circleurquad*
	U+25C9 \fisheye*		U+25F8 \ultriangle*

▽ U+25F9 \urtriangle\*  
 △ U+25FA \lltriangle\*  
 □ U+25FB \mdwhtsquare\*  
 ■ U+25FC \mdblsquare\*  
 ◻ U+25FD \mdsmwhtsquare\*  
 ◼ U+25FE \mdsmblsquare\*  
 ▵ U+25FF \lrtriangle\*  
 ★ U+2605 \bigstar\*  
 ☆ U+2606 \bigwhitestar\*  
 ☼ U+2609 \astrosun  
 ⚠ U+2621 \danger  
 ☺ U+263B \blacksmiley  
 ☼ U+263C \sun  
 ☾ U+263D \rightmoon  
 ☾ U+263E \leftmoon  
 ♀ U+2640 \female  
 ♂ U+2642 \male  
 ♠ U+2660 \spadesuit\*  
 ♥ U+2661 \heartsuit\*  
 ♦ U+2662 \diamondsuit\*  
 ♣ U+2663 \clubsuit\*  
 ♠ U+2664 \varspadesuit  
 ♥ U+2665 \varheartsuit  
 ♦ U+2666 \vardiamondsuit  
 ♣ U+2667 \varclubsuit  
 ♪ U+2669 \quarternote  
 ♪ U+266A \eighthnote  
 ♪ U+266B \twonotes  
 ♭ U+266D \flat  
 ♮ U+266E \natural  
 ♯ U+266F \sharp  
 ∞ U+267E \acidfree\*  
 🎲 U+2680 \dicei  
 🎲 U+2681 \diceii  
 🎲 U+2682 \diceiii  
 🎲 U+2683 \diceiv  
 🎲 U+2684 \dicev  
 🎲 U+2685 \dicevi  
 ⦿ U+2686 \circledrightdot  
 ⦿ U+2687 \circledtwodots  
 ⬤ U+2688 \blackcircledrightdot  
 ⬤ U+2689 \blackcircledtwodots  
 ♀ U+26A5 \Hermaphrodite  
 ○ U+26AA \mdwhtcircle  
 ● U+26AB \mdblkcircle  
 ○ U+26AC \mdsmwhtcircle

♀ U+26B2 \neuter  
 ✓ U+2713 \checkmark  
 ✠ U+2720 \maltese  
 ⬤ U+272A \circledstar  
 \* U+2736 \varstar  
 \* U+273D \dingasterisk  
 ➔ U+279B \draftingarrow\*  
 ∟ U+27C0 \threedangle\*  
 △ U+27C1 \whiteinwhitetriangle\*  
 ⊆ U+27C3 \subsetcirc\*  
 ⊇ U+27C4 \supsetcirc\*  
 / U+27CB \diagup\*  
 \ U+27CD \diagdown\*  
 ◇ U+27D0 \diamondcdot\*  
 ✕ U+292B \rdiagovfdiag\*  
 ✕ U+292C \fdiagovrdiag\*  
 ↗ U+292D \seovnearrow\*  
 ↘ U+292E \neovsearrow\*  
 ↗ U+292F \fdiagovnearrow\*  
 ↘ U+2930 \rdiagovsearrow\*  
 ↗ U+2931 \neovnwarrow\*  
 ↘ U+2932 \nwovnearrow\*  
 ↗ U+2934 \uprightcurvearrow\*  
 ↘ U+2935 \downrightcurvedarrow\*  
 ● U+2981 \mdsmbllkcircle\*  
 ⋮ U+2999 \fourvdots\*  
 ⋮ U+299A \vzigzag\*  
 ∟ U+299B \measuredangleleft\*  
 ⊥ U+299C \rightanglesqr\*  
 ⊥ U+299D \rightanglemdot\*  
 ∠ U+299E \angles\*  
 ∠ U+299F \angdnr\*  
 ≍ U+29A0 \gtlpar\*  
 ∠ U+29A1 \sphericalangleup\*  
 ∠ U+29A2 \turnangle\*  
 ∠ U+29A3 \revangle\*  
 ∠ U+29A4 \angleubar\*  
 ∠ U+29A5 \revangleubar\*  
 ∠ U+29A6 \wideangledown\*  
 ∠ U+29A7 \wideangleup\*  
 ∠ U+29A8 \measanglerutone\*  
 ∠ U+29A9 \measanglelutonw\*  
 ∠ U+29AA \measanglerdtose\*  
 ∠ U+29AB \measangleldtosw\*  
 ∠ U+29AC \measangleurtone\*  
 ∠ U+29AD \measangleultonw\*

	U+29AE	\measangledrtose*
	U+29AF	\measangledltosw*
	U+29B0	\revemptyset*
	U+29B1	\emptysettoobar*
	U+29B2	\emptysettocirc*
	U+29B3	\emptysettoarr*
	U+29B4	\emptysettoarrl*
	U+29BA	\obot*
	U+29BB	\olcross*
	U+29BC	\odotslashdot*
	U+29BD	\uparrowoncircle*
	U+29BE	\circledwhitebullet*
	U+29BF	\circledbullet*
	U+29C2	\cirscir*
	U+29C3	\cirE*
	U+29C9	\boxonbox*
	U+29CA	\triangleodot*
	U+29CB	\triangleubar*
	U+29CC	\triangles*
	U+29DC	\iinfin*
	U+29DD	\tieinfty*
	U+29DE	\nvinfty*
	U+29E0	\laplac*
	U+29E7	\thermod*
	U+29E8	\downtriangleleftblack*
	U+29E9	\downtrianglerightblack*
	U+29EA	\blackdiamonddownarrow*
	U+29EB	\blackklozenge
	U+29EC	\circledownarrow*
	U+29ED	\blackcircledownarrow*
	U+29EE	\errbarsquare*
	U+29EF	\errbarblacksquare*
	U+29F0	\errbardiamond*
	U+29F1	\errbarblackdiamond*
	U+29F2	\errbarcircle*
	U+29F3	\errbarblackcircle*
	U+2AE1	\perps
	U+2AF1	\topcir

	U+2B12	\squaretopblack
	U+2B13	\squarebotblack
	U+2B14	\squareurblack
	U+2B15	\squareellblack
	U+2B16	\diamondleftblack
	U+2B17	\diamondrightblack
	U+2B18	\diamondtopblack
	U+2B19	\diamondbotblack
	U+2B1A	\dottedsquare
	U+2B1B	\lgblksquare
	U+2B1C	\lgwhtsquare
	U+2B1D	\vysblksquare
	U+2B1E	\vysmwhtsquare
	U+2B1F	\pentagonblack
	U+2B20	\pentagon
	U+2B21	\varhexagon
	U+2B22	\varhexagonblack
	U+2B23	\hexagonblack
	U+2B24	\lgblkcircle
	U+2B25	\mdblkdiamond
	U+2B26	\mdwhtdiamond
	U+2B27	\mdblklozenge
	U+2B28	\mdwhtklozenge
	U+2B29	\smbblkdiamond
	U+2B2A	\smbblklozenge
	U+2B2B	\smwhtklozenge
	U+2B2C	\blkhorzoval
	U+2B2D	\whthorzoval
	U+2B2E	\blkvertoval
	U+2B2F	\whtvertoval
	U+2B50	\medwhitestar
	U+2B51	\medblackstar
	U+2B52	\smwhitestar
	U+2B53	\rightpentagonblack
	U+2B54	\rightpentagon
	U+3012	\postalmark
	U+3030	\hzigzag
	U+1D55C	\Bbbk
	U+XXXX	\bracevert*

### 4.3 Binary operators

+	U+000B	+	÷	U+00F7	\div
±	U+00B1	\pm	†	U+2020	\dagger
·	U+00B7	\cdotp, \centerdot	‡	U+2021	\ddagger
×	U+00D7	\times	•	U+2022	\smbklcircle

/	U+2044	\fracslash	Y	U+22CE	\curlyvee
⌘	U+214B	\upand	^	U+22CF	\curlywedge
-	U+000D	-	⌌	U+22D2	\Cap, \doublecap
±	U+2213	\mp	⌍	U+22D3	\Cup, \doublecup
+	U+2214	\dotplus	⌎	U+2305	\varbarwedge*
\	U+2216	\smallsetminus	⌏	U+2306	\vardoublebarwedge*
*	U+2217	\ast	⌐	U+233D	\obar
°	U+2218	\vysmwhtcircle	△	U+25B3	\triangle, \bigtriangleup
•	U+2219	\vysmbkcircle, \bullet	◁	U+22B2	\lhd
^	U+2227	\wedge, \land	▷	U+22B3	\rhd
∨	U+2228	\vee, \lor	◁	U+22B4	\unlhd
∩	U+2229	\cap	▷	U+22B5	\unrhd
∪	U+222A	\cup	○	U+25CB	\mdlgwhtcircle*
÷	U+2238	\dotminus	▢	U+25EB	\boxbar*
≈	U+223E	\invlazys	∇	U+27C7	\veedot*
↯	U+2240	\wr	^	U+27D1	\wedgedot*
↵	U+228C	\cupleftarrow	◊	U+27E0	\lozengeminus*
∪	U+228D	\cupdot	◊	U+27E1	\concavediamond*
⊕	U+228E	\uplus	◊	U+27E2	\concavediamondtickleft*
⊔	U+2293	\sqcap	◊	U+27E3	\concavediamondtickright*
⊔	U+2294	\sqcup	◻	U+27E4	\whitesquaretickleft*
⊕	U+2295	\oplus	◻	U+27E5	\whitesquaretickright*
⊖	U+2296	\ominus	:	U+2982	\typecolon*
⊗	U+2297	\otimes	⊖	U+29B5	\circlehbar*
⊗	U+2298	\oslash	⊕	U+29B6	\circledvert
⊙	U+2299	\odot	⊕	U+29B7	\circledparallel
⊙	U+229A	\circledcirc	⊗	U+29B8	\obslash
⊗	U+229B	\circledast	⊖	U+29B9	\operp*
⊖	U+229C	\circledequal	⊗	U+29C0	\olessthan
⊖	U+229D	\circleddash	⊗	U+29C1	\ogreaterthan
⊕	U+229E	\boxplus	▢	U+29C4	\boxdiag
⊖	U+229F	\boxminus	▢	U+29C5	\boxbslash
⊗	U+22A0	\boxtimes	⊗	U+29C6	\boxast
⊖	U+22A1	\boxdot	⊖	U+29C7	\boxcircle
⌿	U+22BA	\intercal	⊖	U+29C8	\boxbox*
∨	U+22BB	\veebar	△	U+29CD	\triangleserifs*
⌒	U+22BC	\barwedge	⌒	U+29D6	\hourglass*
∇	U+22BD	\barvee	⌒	U+29D7	\blackhourglass*
◊	U+22C4	\diamond, \smwhtdiamond	⌒	U+29E2	\shuffle*
·	U+22C5	\cdot*	◆	U+29EB	\mdlgblklozenge*
★	U+22C6	\star	\	U+29F5	\setminus*
✳	U+22C7	\divideontimes	/	U+29F6	\dsol*
✕	U+22C9	\ltimes	\	U+29F7	\rsolbar*
✕	U+22CA	\rtimes	+	U+29FA	\doubleplus*
↯	U+22CB	\leftthreetimes	≡	U+29FB	\tripleplus*
↯	U+22CC	\rightthreetimes	+	U+29FE	\tplus*

$\text{⊖}$	U+29FF	<code>\tminus*</code>
$\text{⊕}$	U+2A22	<code>\ringplus</code>
$\text{⊕}$	U+2A23	<code>\plushat</code>
$\text{⊕}$	U+2A24	<code>\simplus</code>
$\text{⊕}$	U+2A25	<code>\plusdot</code>
$\text{⊕}$	U+2A26	<code>\plussim</code>
$\text{⊕}$	U+2A27	<code>\plussubtwo</code>
$\text{⊕}$	U+2A28	<code>\plustrif*</code>
$\text{⊖}$	U+2A29	<code>\commaminus*</code>
$\text{⊖}$	U+2A2A	<code>\minusdot</code>
$\text{⊖}$	U+2A2B	<code>\minusfdots</code>
$\text{⊖}$	U+2A2C	<code>\minusrdots*</code>
$\text{⊕}$	U+2A2D	<code>\opluslhrim*</code>
$\text{⊕}$	U+2A2E	<code>\oplusrhrim*</code>
$\text{⊗}$	U+2A2F	<code>\vectimes*</code>
$\text{⊗}$	U+2A30	<code>\dottimes</code>
$\text{⊗}$	U+2A31	<code>\timesbar</code>
$\text{⊗}$	U+2A32	<code>\btimes</code>
$\text{⊗}$	U+2A33	<code>\smashtimes*</code>
$\text{⊗}$	U+2A34	<code>\otimeslhrim*</code>
$\text{⊗}$	U+2A35	<code>\otimesrhrim*</code>
$\text{⊗}$	U+2A36	<code>\otimeshat*</code>
$\text{⊗}$	U+2A37	<code>\Otimes*</code>
$\text{⊕}$	U+2A38	<code>\odiv*</code>
$\text{⊕}$	U+2A39	<code>\triangleplus*</code>
$\text{⊕}$	U+2A3A	<code>\triangleminus*</code>
$\text{⊕}$	U+2A3B	<code>\trianglerightetimes*</code>
$\text{⊔}$	U+2A3C	<code>\intprod*</code>
$\text{⊔}$	U+2A3D	<code>\intprodr*</code>
$\text{⊔}$	U+2A3E	<code>\fcmp*</code>
$\text{⊔}$	U+2A3F	<code>\amalg</code>
$\text{⊔}$	U+2A40	<code>\capdot*</code>
$\text{⊔}$	U+2A41	<code>\uminus*</code>
$\text{⊔}$	U+2A42	<code>\barcup*</code>
$\text{⊔}$	U+2A43	<code>\barcap*</code>
$\text{⊔}$	U+2A44	<code>\capwedge*</code>
$\text{⊔}$	U+2A45	<code>\cupvee*</code>
$\text{⊔}$	U+2A46	<code>\cupovercap*</code>

$\text{⊔}$	U+2A47	<code>\capovercup*</code>
$\text{⊔}$	U+2A48	<code>\cupbarcap*</code>
$\text{⊔}$	U+2A49	<code>\capbarcup*</code>
$\text{⊔}$	U+2A4A	<code>\twocups*</code>
$\text{⊔}$	U+2A4B	<code>\twocaps*</code>
$\text{⊔}$	U+2A4C	<code>\closedvarcup*</code>
$\text{⊔}$	U+2A4D	<code>\closedvarcap*</code>
$\text{⊔}$	U+2A4E	<code>\Sqcap*</code>
$\text{⊔}$	U+2A4F	<code>\Sqcup*</code>
$\text{⊔}$	U+2A50	<code>\closedvarcupsmashprod*</code>
$\text{⊔}$	U+2A51	<code>\wedgeodot*</code>
$\text{⊔}$	U+2A52	<code>\veeodot*</code>
$\text{⊔}$	U+2A53	<code>\Wedge*</code>
$\text{⊔}$	U+2A54	<code>\Vee*</code>
$\text{⊔}$	U+2A55	<code>\wedgeonwedge*</code>
$\text{⊔}$	U+2A56	<code>\veeonvee*</code>
$\text{⊔}$	U+2A57	<code>\bigslopedvee*</code>
$\text{⊔}$	U+2A58	<code>\bigslopedwedge*</code>
$\text{⊔}$	U+2A5A	<code>\wedgemidvert*</code>
$\text{⊔}$	U+2A5B	<code>\veemidvert*</code>
$\text{⊔}$	U+2A5C	<code>\midbarwedge*</code>
$\text{⊔}$	U+2A5D	<code>\midbarvee*</code>
$\text{⊔}$	U+2A5E	<code>\doublebarwedge</code>
$\text{⊔}$	U+2A5F	<code>\wedgebar*</code>
$\text{⊔}$	U+2A60	<code>\wedgedoublebar*</code>
$\text{⊔}$	U+2A61	<code>\varveebar*</code>
$\text{⊔}$	U+2A62	<code>\doublebarvee*</code>
$\text{⊔}$	U+2A63	<code>\veedoublebar</code>
$\text{⊔}$	U+2A64	<code>\dsub*</code>
$\text{⊔}$	U+2A65	<code>\rsub*</code>
$\text{⊔}$	U+2A71	<code>\eqqplus</code>
$\text{⊔}$	U+2A72	<code>\pluseqq</code>
$\text{⊔}$	U+2AF4	<code>\interleave</code>
$\text{⊔}$	U+2AF5	<code>\nhVvert</code>
$\text{⊔}$	U+2AF6	<code>\threedotcolon</code>
$\text{⊔}$	U+2AFB	<code>\trslash</code>
$\text{⊔}$	U+2AFD	<code>\sslash</code>
$\text{⊔}$	U+2AFE	<code>\talloblong</code>

## 4.4 Relations

$\text{*}$	U+002A	<code>*, \ast</code>	$\text{>}$	U+003E	<code>&gt;, \greater</code>
$\text{:}$	U+003A	<code>:</code>	$\text{⊂}$	U+2050	<code>\closure*</code>
$\text{<}$	U+003C	<code>&lt;, \less</code>	$\text{ }$	U+20D2	<code>\vertoverlay</code>
$\text{=}$	U+003D	<code>=, \equal</code>	$\text{←}$	U+2190	<code>\leftarrow, \gets</code>

↑	U+2191	\uparrow	⇒	U+21C4	\rightleftarrows
→	U+2192	\rightarrow, \to	↕	U+21C5	\updownarrows
↓	U+2193	\downarrow	⇔	U+21C6	\leftrightharrows
↔	U+2194	\leftrightharrow	⇐	U+21C7	\leftleftarrows
↕	U+2195	\updownarrow	⇑	U+21C8	\upuparrows
↗	U+2196	\nwarrow	⇒	U+21C9	\rightrightarrows
↘	U+2197	\nearrow	⇓	U+21CA	\downdownarrows
↖	U+2198	\searrow	⇔	U+21CB	\leftrightharpoons
↗	U+2199	\swarrow	⇔	U+21CC	\rightleftharpoons
↔	U+219A	\nleftarrow	⇐	U+21CD	\nLeftarrow
↔	U+219B	\nrightarrow	⇐	U+21CE	\nLefttrightarrow
↔	U+219C	\leftwarrow	⇒	U+21CF	\nRightarrow
↔	U+219D	\rightarrow	⇐	U+21D0	\Leftarrow
⇐	U+219E	\twoheadleftarrow	↑	U+21D1	\Uparrow
⇑	U+219F	\twoheaduparrow	⇒	U+21D2	\Rightarrow
⇒	U+21A0	\twoheadrightarrow	↓	U+21D3	\Downarrow
⇓	U+21A1	\twoheaddownarrow	⇔	U+21D4	\Leftrightarrow
⇐	U+21A2	\leftarrowtail	⇕	U+21D5	\Updownarrow
⇒	U+21A3	\rightarrowtail	↗	U+21D6	\Nwarrow
⇐	U+21A4	\mapsfrom	↘	U+21D7	\Nearrow
↑	U+21A5	\mapsup	↖	U+21D8	\Searrow
→	U+21A6	\mapsto	↗	U+21D9	\Swarrow
↓	U+21A7	\mapsdown	⇐	U+21DA	\Lleftarrow*
↪	U+21A9	\hookrightarrow	⇒	U+21DB	\Rrightarrow*
↩	U+21AA	\hookleftarrow	↔	U+21DC	\leftsquigarrow
↪	U+21AB	\looparrowleft	↔	U+21DD	\rightsquigarrow, \leadsto
↩	U+21AC	\looparrowright	←	U+21E4	\barleftarrow*
↔	U+21AD	\leftrightsquigarrow	→	U+21E5	\rightarrowbar*
↔	U+21AE	\nletrightarrow	⇐	U+21F4	\circlearrowright*
↗	U+21AF	\downzigzagarrow	↑	U+21F5	\downuparrows
↖	U+21B0	\Lsh	⇒	U+21F6	\rightthreearrows*
↗	U+21B1	\Rsh	⇐	U+21F7	\nvleftarrow*
↘	U+21B2	\Ldsh	→	U+21F8	\nvrightarrow*
↘	U+21B3	\Rdsh	⇐	U+21F9	\nvletrightarrow*
↪	U+21B6	\curvearrowleft	⇐	U+21FA	\nVleftarrow*
↪	U+21B7	\curvearrowright	⇒	U+21FB	\nVrightarrow*
↪	U+21BA	\circlearrowleft	⇐	U+21FC	\nVletrightarrow*
↪	U+21BB	\circlearrowright	←	U+21FD	\leftarrowtriangle*
⇐	U+21BC	\leftharpoonup	→	U+21FE	\rightarrowtriangle*
⇐	U+21BD	\leftharpoondown	↔	U+21FF	\leftrightarrowtriangle*
↖	U+21BE	\upharpoonright, \restriction	∈	U+2208	\in
↖	U+21BF	\upharpoonleft	∉	U+2209	\notin
→	U+21C0	\rightharpoonup	∈	U+220A	\smallin
→	U+21C1	\rightharpoondown	⊃	U+220B	\ni, \owns
↘	U+21C2	\downharpoonright	∄	U+220C	\nni
↘	U+21C3	\downharpoonleft	⊃	U+220D	\smallni

$\propto$	U+221D	\propto	$\equiv$	U+225D	\eqdef
$\propto$	U+221D	\varpropto	$\equiv$	U+225E	\measeq
	U+2223	\mid	$\equiv$	U+225F	\questeq
	U+2223	\shortmid	$\neq$	U+2260	\ne, \neq
†	U+2224	\nmid	$\equiv$	U+2261	\equiv
†	U+2224	\nshortmid*	$\neq$	U+2262	\nequiv
	U+2225	\parallel	$\equiv$	U+2263	\Equiv
	U+2225	\shortparallel*	$\leq$	U+2264	\leq, \le
	U+2226	\nparallel	$\geq$	U+2265	\geq, \ge
	U+2226	\nshortparallel*	$\leq$	U+2266	\leqq
::	U+2237	\Colon	$\geq$	U+2267	\geqq
:-	U+2239	\dashcolon	$\neq$	U+2268	\lneqq
::	U+223A	\dotsminusdots	$\neq$	U+2268	\lvertneqq
~	U+223B	\kernelcontraction	$\neq$	U+2269	\gneqq
~	U+223C	\sim	$\neq$	U+2269	\gvertneqq
~	U+223C	\thicksim	$\ll$	U+226A	\ll
~	U+223D	\backsim	$\gg$	U+226B	\gg
~	U+2241	\nsim	$\oslash$	U+226C	\between
~	U+2242	\eqsim	$\star$	U+226D	\nasymp
~	U+2243	\simeq	$\star$	U+226E	\nless
~	U+2244	\nsime	$\star$	U+226F	\ngtr
~	U+2245	\cong	$\star$	U+2270	\nleq
~	U+2246	\simneqq	$\star$	U+2271	\ngeq
~	U+2247	\ncong	$\leq$	U+2272	\lessssim
~	U+2248	\approx	$\gtrsim$	U+2273	\gtrsim
~	U+2248	\thickapprox	$\star$	U+2274	\nlesssim
~	U+2249	\napprox	$\star$	U+2275	\ngtrsim
~	U+224A	\approxeq	$\leq$	U+2276	\lessgtr
~	U+224B	\approxident	$\geq$	U+2277	\gtrless
~	U+224C	\backcong	$\star$	U+2278	\nlessgtr
~	U+224D	\asymp	$\star$	U+2279	\ngtrless
~	U+224E	\Bumpeq	$<$	U+227A	\prec
~	U+224F	\bumpeq	$>$	U+227B	\succ
~	U+2250	\doteq	$\preccurlyeq$	U+227C	\preccurlyeq
~	U+2251	\Doteq, \doteqdot	$\succcurlyeq$	U+227D	\succcurlyeq
~	U+2252	\fallingdotseq	$\lesssim$	U+227E	\precsim
~	U+2253	\risingdotseq	$\gtrsim$	U+227F	\succsim
~	U+2254	\coloneq	$\star$	U+2280	\nprec
~	U+2255	\eqcolon	$\star$	U+2281	\nsucc
~	U+2256	\eqcirc	$\subset$	U+2282	\subset
~	U+2257	\circeq	$\supset$	U+2283	\supset
~	U+2258	\arceq	$\not\subset$	U+2284	\nsubset
~	U+2259	\wedgeeq	$\not\supset$	U+2285	\nsupset
~	U+225A	\veeeq	$\subseteq$	U+2286	\subseteq
~	U+225B	\stareq	$\supseteq$	U+2287	\supseteq
~	U+225C	\triangleq	$\not\subseteq$	U+2288	\nsubseteq

$\nsubseteq$	U+2289	\nsubseteq	$\npreccurlyeq$	U+22E0
$\subsetneq$	U+228A	\subsetneq	$\nsucccurlyeq$	U+22E1
$\varsubsetneq$	U+228A	\varsubsetneq*	$\nsqsubseteq$	U+22E2
$\supsetneq$	U+228B	\supsetneq	$\nsqsupseteq$	U+22E3
$\varsupsetneq$	U+228B	\varsupsetneq*	$\sqsubseteq$	U+22E4
$\sqsubset$	U+228F	\sqsubset	$\sqsupseteq$	U+22E5
$\sqsupset$	U+2290	\sqsupset	$\lnsim$	U+22E6
$\sqsubseteq$	U+2291	\sqsubseteq	$\gnsim$	U+22E7
$\sqsupseteq$	U+2292	\sqsupseteq	$\precnsim$	U+22E8
$\vdash$	U+22A2	\vdash	$\succnsim$	U+22E9
$\dashv$	U+22A3	\dashv	$\nvartriangleleft$	U+22EA
$\vdash$	U+22A6	\assert	$\nvartriangleright$	U+22EB
$\models$	U+22A7	\models	$\ntrianglelefteq$	U+22EC
$\Vdash$	U+22A8	\Vdash	$\ntrianglerighteq$	U+22ED
$\Vdash$	U+22A9	\Vdash	$\vdots$	U+22EE
$\Vdash$	U+22AA	\Vdash	$\adots$	U+22F0
$\Vdash$	U+22AB	\Vdash	$\ddots$	U+22F1
$\nvdash$	U+22AC	\nvdash	$\disin^*$	U+22F2
$\nvDash$	U+22AD	\nvDash	$\varisins^*$	U+22F3
$\nVdash$	U+22AE	\nVdash	$\isins^*$	U+22F4
$\nVDash$	U+22AF	\nVDash	$\isindot^*$	U+22F5
$\prurel$	U+22B0	\prurel	$\varisinobar$	U+22F6
$\scurel$	U+22B1	\scurel	$\isinobar^*$	U+22F7
$\triangleleft$	U+22B2	\triangleleft	$\isinvb^*$	U+22F8
$\triangleright$	U+22B3	\triangleright	$\isinE^*$	U+22F9
$\trianglelefteq$	U+22B4	\trianglelefteq	$\nisd^*$	U+22FA
$\trianglerighteq$	U+22B5	\trianglerighteq	$\varnis^*$	U+22FB
$\circ\bullet$	U+22B6	\origof	$\nis^*$	U+22FC
$\bullet\circ$	U+22B7	\imageof	$\varniobar$	U+22FD
$\circ$	U+22B8	\multimap	$\niobar^*$	U+22FE
$\bowtie$	U+22C8	\bowtie	$\bagmember^*$	U+22FF
$\backsimeq$	U+22CD	\backsimeq	$\frown$	U+2322
$\Subset$	U+22D0	\Subset	$\smallfrown^*$	U+2322
$\Supset$	U+22D1	\Supset	$\smile$	U+2323
$\pitchfork$	U+22D4	\pitchfork	$\smallsmile^*$	U+2323
$\#$	U+22D5	\equalparallel	$\nAPlnotslash$	U+233F
$\lessdot$	U+22D6	\lessdot	$\vartriangle^*$	U+25B5
$\gtrdot$	U+22D7	\gtrdot	$\perp$	U+27C2
$\lll$	U+22D8	\lll, \llless	$\lrcorner$	U+27C8
$\ggg$	U+22D9	\ggg, \gggtr	$\suphsol$	U+27C9
$\lesseqgtr$	U+22DA	\lesseqgtr	$\upin^*$	U+27D2
$\gtreqless$	U+22DB	\gtreqless	$\lrcorner$	U+27D3
$\eqless$	U+22DC	\eqless	$\pushout^*$	U+27D4
$\eqgtr$	U+22DD	\eqgtr	$\DashVDash^*$	U+27DA
$\curlyeqprec$	U+22DE	\curlyeqprec	$\dashVdash^*$	U+27DB
$\curlyeqsucc$	U+22DF	\curlyeqsucc	$\multimapinv^*$	U+27DC

U+27DD \vlongdash*	U+291B \leftdbltail*
U+27DE \longdashv*	U+291C \rightdbltail*
U+27DF \cirbot*	U+291D \diamondleftarrow*
U+27F0 \UUparrow*	U+291E \rightarrowdiamond*
U+27F1 \DDownarrow*	U+291F \diamondleftarrowbar*
U+27F2 \acwgapcirclearrow*	U+2920 \barrightarrowdiamond*
U+27F3 \cwgapcirclearrow*	U+2921 \nwsearrow*
U+27F4 \rightarrowonoplus*	U+2922 \neswarrow*
U+27F5 \longleftarrow*	U+2923 \hknwarrow*
U+27F6 \longrightarrow*	U+2924 \hknearrow*
U+27F7 \longleftrightarrow*	U+2925 \hksearrow*
U+27F8 \Longleftarrow*	U+2926 \hksvarrow*
U+27F9 \Longrightarrow*	U+2927 \tona*
U+27FA \Longleftrightarrow*	U+2928 \toea*
U+27FB \longmapsfrom*	U+2929 \tosa*
U+27FC \longmapsto*	U+292A \towa*
U+27FD \Longmapsfrom*	U+2933 \rightarrowcurvedarrow*
U+27FE \Longmapsto*	U+2936 \leftdowncurvedarrow*
U+27FF \longrightsquigarrow*	U+2937 \rightdowncurvedarrow*
U+2900 \nvtwoheadrightarrow*	U+2938 \cwrightarcarrow*
U+2901 \nVtwoheadrightarrow*	U+2939 \acwleftarcarrow*
U+2902 \nvLeftarrow*	U+293A \acwoverarcarrow*
U+2903 \nvrightarrow*	U+293B \acwunderarcarrow*
U+2904 \nvLeftrightarrow*	U+293C \curvearrowrightminus*
U+2905 \twoheadmapsto*	U+293D \curvearrowleftplus*
U+2906 \Mapsfrom*	U+293E \cwundercurvearrow*
U+2907 \Mapsto*	U+293F \ccwundercurvearrow*
U+2908 \downarrowbarred*	U+2940 \acwcirclearrow*
U+2909 \uparrowbarred*	U+2941 \cwcirclearrow*
U+290A \Uparrow*	U+2942 \rightarrowshortleftarrow*
U+290B \Downarrow*	U+2943 \leftarrowshortrightarrow*
U+290C \leftbkarrow*	U+2944 \shortrightarrowleftarrow*
U+290D \rightbkarrow*	U+2945 \rightarrowplus*
U+290E \leftdbkarrow*, \dashleftarrow*	U+2946 \leftarrowplus*
U+290F \dbkarrow*, \dashrightarrow*	U+2947 \rightarrowx*
U+2910 \drbkarow*	U+2948 \leftrightarrowcircle*
U+2911 \rightrightarrow*	U+2949 \twoheaduparrowcircle*
U+2912 \baruparrow*	U+294A \leftrightharpoonupdown*
U+2913 \downarrowbar*	U+294B \leftrightharpoonowdownup*
U+2914 \nvrightarrowtail*	U+294C \updownharpoonrightleft*
U+2915 \nvrightarrowtail*	U+294D \updownharpoonleftright*
U+2916 \twoheadrightarrowtail*	U+294E \leftrightharpoonupup*
U+2917 \nvtwoheadrightarrowtail*	U+294F \updownharpoonrightright*
U+2918 \nVtwoheadrightarrowtail*	U+2950 \leftrightharpoonowdowndown*
U+2919 \lefttail*	U+2951 \updownharpoonleftleft*
U+291A \righttail*	U+2952 \barleftharpoonup*

↗	U+2953 \rightharpoonupbar*	◁	U+29CF \ltrivb*
↘	U+2954 \barupharpoonright*	▷	U+29D0 \vbrtri*
↓	U+2955 \downharpoonrightbar*	⌞	U+29D1 \lfbowtie*
↖	U+2956 \barleftharpoontdown*	⌟	U+29D2 \rfbowtie*
↗	U+2957 \rightharpoontdownbar*	⌘	U+29D3 \fbowtie*
↘	U+2958 \barupharpoonleft*	⌞	U+29D4 \lftimes*
↓	U+2959 \downharpoonleftbar*	⌟	U+29D5 \rftimes*
↖	U+295A \leftharpoonupbar*	↻	U+29DF \dualmap*
↗	U+295B \barrightharpoonup*	≠	U+29E1 \lrtriangleeq*
↓	U+295C \upharpoonrightbar*	#	U+29E3 \eparsl*
↖	U+295D \bardownharpoonright*	#	U+29E4 \smeparsl*
↖	U+295E \leftharpoontdownbar*	#	U+29E5 \eqvparsl*
↗	U+295F \barrightharpoontdown*	≡	U+29E6 \gleichstark*
↓	U+2960 \upharpoonleftbar*	→	U+29F4 \ruledelayed*
↖	U+2961 \bardownharpoonleft*	⋈	U+2A59 \veeonwedge*
⇌	U+2962 \leftharpoonsupdown*	=	U+2A66 \eqdot
↕	U+2963 \upharpoonsleftright*	≡	U+2A67 \dotequiv
⇒	U+2964 \rightharpoonsupdown*	#	U+2A68 \equivVert*
⇌	U+2965 \downharpoonsleftright*	#	U+2A69 \equivVvert*
⇌	U+2966 \leftrightharpoonsup*	~	U+2A6A \dotsim
⇌	U+2967 \leftrightharpoonsdown*	~	U+2A6B \simrdots*
⇌	U+2968 \rightleftharpoonsup*	≈	U+2A6C \simminus*
⇌	U+2969 \rightleftharpoonsdown*	≡	U+2A6D \congdot
⇌	U+296A \leftharpoonupdash*	≡	U+2A6E \asteq
⇌	U+296B \dashleftharpoontdown*	≈	U+2A6F \hatapprox
⇌	U+296C \rightharpoonupdash*	≈	U+2A70 \approxeq
⇌	U+296D \dashrightharpoontdown*	≈	U+2A73 \eqqsim
↕	U+296E \updownharpoonsleftright*	≡	U+2A74 \Coloneq*
↕	U+296F \downupharpoonsleftright*	==	U+2A75 \eqeq*
⇒	U+2970 \rightimply*	===	U+2A76 \eqeqeq*
⇒	U+2971 \equalrightarrow*	≡	U+2A77 \ddotseq*
⇒	U+2972 \similarrightarrow*	≡	U+2A78 \equivDD*
⇐	U+2973 \leftarrowssimilar*	⋈	U+2A79 \ltcir*
⇒	U+2974 \rightarrowssimilar*	⋈	U+2A7A \gtcir*
⇒	U+2975 \rightarrowapprox*	⋈	U+2A7B \ltquest*
⋈	U+2976 \ltlarr*	⋈	U+2A7C \gtquest*
⋈	U+2977 \leftarrowless*	⋈	U+2A7D \leqslant
⋈	U+2978 \gtrarr*	⋈	U+2A7E \geqslant
⋈	U+2979 \subrarr*	⋈	U+2A7F \lesdot*
⋈	U+297A \leftarrowsubset*	⋈	U+2A80 \gesdot*
⋈	U+297B \suplarr*	⋈	U+2A81 \lesdoto*
⋈	U+297C \leftfishtail*	⋈	U+2A82 \gesdoto*
⋈	U+297D \rightfishtail*	⋈	U+2A83 \lesdotor*
⋈	U+297E \upfishtail*	⋈	U+2A84 \gesdoto1*
⋈	U+297F \downfishtail*	⋈	U+2A85 \lessapprox*
⋈	U+29CE \rtriltri*	⋈	U+2A86 \gtrapprox*

$\nless$  U+2A87  $\backslash$ lneq  
 $\nless$  U+2A88  $\backslash$ gneq  
 $\nless$  U+2A89  $\backslash$ lnapprox  
 $\nless$  U+2A8A  $\backslash$ gnapprox  
 $\nless$  U+2A8B  $\backslash$ lesseqqgtr\*  
 $\nless$  U+2A8C  $\backslash$ gtreqqless\*  
 $\nless$  U+2A8D  $\backslash$ lsime\*  
 $\nless$  U+2A8E  $\backslash$ gsime\*  
 $\nless$  U+2A8F  $\backslash$ lsimg\*  
 $\nless$  U+2A90  $\backslash$ gsiml\*  
 $\nless$  U+2A91  $\backslash$ lgE\*  
 $\nless$  U+2A92  $\backslash$ glE\*  
 $\nless$  U+2A93  $\backslash$ lesges\*  
 $\nless$  U+2A94  $\backslash$ gesles\*  
 $\nless$  U+2A95  $\backslash$ eqslantless  
 $\nless$  U+2A96  $\backslash$ eqslantgtr  
 $\nless$  U+2A97  $\backslash$ elsdot\*  
 $\nless$  U+2A98  $\backslash$ egsdot\*  
 $\nless$  U+2A99  $\backslash$ eqqless\*  
 $\nless$  U+2A9A  $\backslash$ eqqgtr\*  
 $\nless$  U+2A9B  $\backslash$ eqqslantless\*  
 $\nless$  U+2A9C  $\backslash$ eqqslantgtr\*  
 $\nless$  U+2A9D  $\backslash$ simless  
 $\nless$  U+2A9E  $\backslash$ simgtr  
 $\nless$  U+2A9F  $\backslash$ simlE\*  
 $\nless$  U+2AA0  $\backslash$ simgE\*  
 $\nless$  U+2AA1  $\backslash$ Lt\*  
 $\nless$  U+2AA2  $\backslash$ Gt\*  
 $\nless$  U+2AA3  $\backslash$ partialmeetcontraction\*  
 $\nless$  U+2AA4  $\backslash$ glj\*  
 $\nless$  U+2AA5  $\backslash$ gla\*  
 $\nless$  U+2AA6  $\backslash$ ltcc\*  
 $\nless$  U+2AA7  $\backslash$ gtcc\*  
 $\nless$  U+2AA8  $\backslash$ lescc\*  
 $\nless$  U+2AA9  $\backslash$ gescc\*  
 $\nless$  U+2AAA  $\backslash$ smt\*  
 $\nless$  U+2AAB  $\backslash$ lat\*  
 $\nless$  U+2AAC  $\backslash$ smte\*  
 $\nless$  U+2AAD  $\backslash$ late\*  
 $\nless$  U+2AAE  $\backslash$ bumpeq\*  
 $\nless$  U+2AAF  $\backslash$ preceq  
 $\nless$  U+XXXX  $\backslash$ npreceq\*  
 $\nless$  U+2AB0  $\backslash$ succeq  
 $\nless$  U+XXXX  $\backslash$ nsucceq\*  
 $\nless$  U+2AB1  $\backslash$ precneq\*

U+2AB2  $\backslash$ succneq\*  
U+2AB3  $\backslash$ preceqq\*  
U+2AB4  $\backslash$ succeqq\*  
U+2AB5  $\backslash$ precneqq\*  
U+2AB6  $\backslash$ succneqq\*  
U+2AB7  $\backslash$ precapprox\*  
U+2AB8  $\backslash$ succapprox\*  
U+2AB9  $\backslash$ precnapprox\*  
U+2ABA  $\backslash$ succnapprox\*  
U+2ABB  $\backslash$ Prec\*  
U+2ABC  $\backslash$ Succ\*  
U+2ABD  $\backslash$ subsetdot  
U+2ABE  $\backslash$ supsetdot  
U+2ABF  $\backslash$ subsetplus\*  
U+2AC0  $\backslash$ supsetplus\*  
U+2AC1  $\backslash$ submult\*  
U+2AC2  $\backslash$ supmult\*  
U+2AC3  $\backslash$ subedot\*  
U+2AC4  $\backslash$ supedot\*  
U+2AC5  $\backslash$ subseteqq  
U+XXXX  $\backslash$ nsubseteqq\*  
U+2AC6  $\backslash$ supseteqq  
U+XXXX  $\backslash$ nsupseteqq\*  
U+2AC7  $\backslash$ subsim\*  
U+2AC8  $\backslash$ supsim\*  
U+2AC9  $\backslash$ subsetapprox\*  
U+2ACA  $\backslash$ supsetapprox\*  
U+2ACB  $\backslash$ subsetneqq  
U+2ACB  $\backslash$ varsubsetneqq\*  
U+2ACC  $\backslash$ supsetneqq  
U+2ACC  $\backslash$ varsupsetneqq\*  
U+2ACD  $\backslash$ lsqhook  
U+2ACE  $\backslash$ rsqhook  
U+2ACF  $\backslash$ csub  
U+2AD0  $\backslash$ csup  
U+2AD1  $\backslash$ csube  
U+2AD2  $\backslash$ csupe  
U+2AD3  $\backslash$ subsup  
U+2AD4  $\backslash$ supsub  
U+2AD5  $\backslash$ subsub  
U+2AD6  $\backslash$ supsup  
U+2AD7  $\backslash$ suphsub  
U+2AD8  $\backslash$ supdsub  
U+2AD9  $\backslash$ forkv  
U+2ADA  $\backslash$ topfork  
U+2ADB  $\backslash$ mlcp

$\urcorner$  U+2ADC \forks  
 $\urcorner$  U+2ADD \forksnot  
 $\dashleftarrow$  U+2ADE \shortlefttack  
 $\dashrightarrow$  U+2ADF \shortdowntack  
 $\dashv$  U+2AE0 \shortuptack  
 $\Vdash$  U+2AE2 \vDdash  
 $\dashv$  U+2AE3 \dashV  
 $\Dashv$  U+2AE4 \Dashv  
 $\DashV$  U+2AE5 \DashV  
 $\varVdash$  U+2AE6 \varVdash  
 $\Barv$  U+2AE7 \Barv  
 $\vBar$  U+2AE8 \vBar  
 $\vBarv$  U+2AE9 \vBarv  
 $\barV$  U+2AEA \barV  
 $\Vbar$  U+2AEB \Vbar  
 $\neg$  U+2AEC \Not  
 $\neg$  U+2AED \bNot  
 $\upharpoonright$  U+2AEE \revnmid  
 $\upharpoonright$  U+2AEF \cirmid  
 $\mid$  U+2AF0 \midcir  
 $\parallel$  U+2AF2 \nhpar  
 $\parallel$  U+2AF3 \parsim  
 $\lll$  U+2AF7 \lllnest  
 $\ggg$  U+2AF8 \gggnest  
 $\leqslant$  U+2AF9 \leqqlslant  
 $\geqslant$  U+2AFA \geqqlslant  
 $\circlearrowleft$  U+2B30 \circleonleftarrow\*  
 $\leftleftarrows$  U+2B31 \leftthreearrows\*  
 $\leftarrow$  U+2B32 \leftarrowonoplus\*  
 $\longleftsquigarrow$  U+2B33 \longleftsquigarrow\*  
 $\nrightarrow$  U+2B34 \nvtwoheadleftarrow\*  
 $\nrightarrow$  U+2B35 \nVtwoheadleftarrow\*  
 $\twoheadmapsfrom$  U+2B36 \twoheadmapsfrom\*  
 $\twoheadleftdbkarrow$  U+2B37 \twoheadleftdbkarrow\*  
 $\leftarrow$  U+2B38 \leftdotarrow\*  
 $\leftarrow$  U+2B39 \nvleftarrowtail\*  
 $\leftarrow$  U+2B3A \nVleftarrowtail\*  
 $\leftarrow$  U+2B3B \twoheadleftarrowtail\*  
 $\leftarrow$  U+2B3C \nvtwoheadleftarrowtail\*  
 $\leftarrow$  U+2B3D \nVtwoheadleftarrowtail\*

$\leftarrow$  U+2B3E \leftarrowx\*  
 $\curvearrowleft$  U+2B3F \leftcurvedarrow\*  
 $\overleftarrow{=}$  U+2B40 \equalleftarrow\*  
 $\overleftarrow{\sim}$  U+2B41 \bsimilarleftarrow\*  
 $\overleftarrow{\approx}$  U+2B42 \leftarrowbackapprox\*  
 $\rightarrow$  U+2B43 \rightarrowgtr\*  
 $\rightarrow$  U+2B44 \rightarrowsupset\*  
 $\overleftarrow{=}$  U+2B45 \Lleftarrow\*  
 $\overrightarrow{=}$  U+2B46 \Rrightarrow\*  
 $\overrightarrow{\sim}$  U+2B47 \bsimilarrightarrow\*  
 $\overrightarrow{\approx}$  U+2B48 \rightarrowbackapprox\*  
 $\overleftarrow{\sim}$  U+2B49 \similarleftarrow\*  
 $\overleftarrow{\approx}$  U+2B4A \leftarrowapprox\*  
 $\overleftarrow{\sim}$  U+2B4B \leftarrowbsimilar\*  
 $\overrightarrow{\sim}$  U+2B4C \rightarrowbsimilar\*  
 $\ngeqq$  U+XXXX \ngeqq  
 $\ngeqslant$  U+XXXX \ngeqslant  
 $\nleqslant$  U+XXXX \nleqslant  
 $\nleqq$  U+XXXX \nleqq  
 $\ncongdot$  U+XXXX \ncongdot  
 $\napproxeq$  U+XXXX \napproxeq  
 $\nll$  U+XXXX \nll  
 $\ngg$  U+XXXX \ngg  
 $\nsqsubset$  U+XXXX \nsqsubset  
 $\nsqsupset$  U+XXXX \nsqsupset  
 $\nbumpeq$  U+XXXX \nbumpeq  
 $\nbumpeq$  U+XXXX \nbumpeq  
 $\neqsim$  U+XXXX \neqsim  
 $\nvarisinobar$  U+XXXX \nvarisinobar  
 $\nvarniobar$  U+XXXX \nvarniobar  
 $\neqslantless$  U+XXXX \neqslantless  
 $\neqslantgtr$  U+XXXX \neqslantgtr  
 $\hookleftarrow$  U+XXXX \hookleftarrow  
 $\hookrightarrow$  U+XXXX \hookrightarrow  
 $\relbar$  U+XXXX \relbar  
 $\relbar$  U+XXXX \relbar  
 $\Rrelbar$  U+XXXX \Rrelbar\*  
 $\Rrelbar$  U+XXXX \Rrelbar\*  
 $\mapsfromchar$  U+XXXX \mapsfromchar  
 $\mapstochar$  U+XXXX \mapstochar

## 4.5 Punctuation

,	U+002C	,	:	U+003A	\colon
.	U+002E	\ldotp	;	U+003B	;

## 4.6 Integrals

Integrals come in two styles, the slanted versions shown below ( $\int$ , etc.) and upright versions such as  $\int$ . By default, the symbol names listed below will give you the slanted style, but if you specify the `upint` package option, they will give you the corresponding upright symbols.

It is highly recommended that authors stick to the names below and use the `upint` package option to choose a style globally for their document. However, in recognition of the fact that it might occasionally be necessary to mix the two styles, alternative names have been provided for all integrals. Append `sl` or `up` to the names below to request either the *slanted* or the *upright* variant. Thus, `\ints1` will always yield  $\int$  and `\intup` will always yield  $\int$ , and similarly for the other integrals.

$\int$	U+222B	\smallint	$\int$	U+2A10	\smallcirfnint
$\iint$	U+222C	\smalliiint	$\int$	U+2A11	\smallawint
$\iiint$	U+222D	\smalliiiint	$\int$	U+2A12	\smallrrppolint
$\oint$	U+222E	\smalloint	$\int$	U+2A13	\smallscpolint
$\oiint$	U+222F	\smalloiint	$\int$	U+2A14	\smallnopolint
$\oiint$	U+2230	\smalloiint	$\int$	U+2A15	\smallpointint
$\int$	U+2231	\smallintclockwise	$\int$	U+2A16	\smallsqint
$\int$	U+2232	\smallvarointclockwise	$\int$	U+2A17	\smallintlarhk
$\int$	U+2233	\smallointctrclockwise	$\int$	U+2A18	\smallintx
$\int$	U+2A0B	\smallsumint	$\int$	U+2A19	\smallintcap
$\int$	U+2A0C	\smalliiiint	$\int$	U+2A1A	\smallintcup
$\int$	U+2A0D	\smallintbar	$\int$	U+2A1B	\smallupint
$\int$	U+2A0E	\smallintBar	$\int$	U+2A1C	\smallllowint
$\int$	U+2A0F	\smallfint			
$\int$	$\int$	U+222B \int	$\oint$	$\oint$	U+2233 \ointctrclockwise
$\iint$	$\iint$	U+222C \iint	$\int$	$\int$	U+2A0B \sumint
$\iiint$	$\iiint$	U+222D \iiint	$\int$	$\int$	U+2A0C \iiiint
$\oint$	$\oint$	U+222E \oint	$\int$	$\int$	U+2A0D \intbar
$\oiint$	$\oiint$	U+222F \oiint	$\int$	$\int$	U+2A0E \intBar
$\oiint$	$\oiint$	U+2230 \oiint	$\int$	$\int$	U+2A0F \fint
$\int$	$\int$	U+2231 \intclockwise	$\int$	$\int$	U+2A10 \cirfnint
$\oint$	$\oint$	U+2232 \varointclockwise	$\int$	$\int$	U+2A11 \awint

$\int$	$\int$	U+2A12	<code>\rppolint</code>
$\int$	$\int$	U+2A13	<code>\scpolint</code>
$\int$	$\int$	U+2A14	<code>\npolint</code>
$\int$	$\int$	U+2A15	<code>\pointint</code>
$\int$	$\int$	U+2A16	<code>\sqint</code>
$\int$	$\int$	U+2A17	<code>\intlarhk</code>

$\int$	$\int$	U+2A18	<code>\intx</code>
$\int$	$\int$	U+2A19	<code>\intcap</code>
$\int$	$\int$	U+2A1A	<code>\intcup</code>
$\int$	$\int$	U+2A1B	<code>\upint</code>
$\int$	$\int$	U+2A1C	<code>\lowint</code>

## 4.7 Big operators

$\sum$	$\sum$	U+2140	<code>\Bbbsum</code>
$\prod$	$\prod$	U+220F	<code>\prod</code>
$\coprod$	$\coprod$	U+2210	<code>\coprod</code>
$\sum$	$\sum$	U+2211	<code>\sum</code>
$\wedge$	$\wedge$	U+22C0	<code>\bigwedge</code>
$\vee$	$\vee$	U+22C1	<code>\bigvee</code>
$\cap$	$\cap$	U+22C2	<code>\bigcap</code>
$\cup$	$\cup$	U+22C3	<code>\bigcup</code>
$\Join$	$\Join$	U+27D5	<code>\leftouterjoin*</code>
$\Join$	$\Join$	U+27D6	<code>\rightouterjoin*</code>
$\Join$	$\Join$	U+27D7	<code>\fullouterjoin*</code>
$\bot$	$\bot$	U+27D8	<code>\bigbot*</code>
$\top$	$\top$	U+27D9	<code>\bigtop*</code>
$/$	$/$	U+29F8	<code>\xsol*</code>
$\backslash$	$\backslash$	U+29F9	<code>\xbsol*</code>
$\odot$	$\odot$	U+2A00	<code>\bigodot*</code>


$\oplus$	$\oplus$	U+2A01	<code>\bigoplus*</code>
$\otimes$	$\otimes$	U+2A02	<code>\bigotimes*</code>
$\cup$	$\cup$	U+2A03	<code>\bigcupdot*</code>
$\oplus$	$\oplus$	U+2A04	<code>\biguplus*</code>
$\sqcap$	$\sqcap$	U+2A05	<code>\bigsqcap*</code>
$\sqcup$	$\sqcup$	U+2A06	<code>\bigsqcup*</code>
$\Join$	$\Join$	U+2A07	<code>\conjquant*</code>
$\Join$	$\Join$	U+2A08	<code>\disjquant*</code>
$\times$	$\times$	U+2A09	<code>\bigtimes*</code>
$\sum$	$\sum$	U+2A0A	<code>\modtwosum*</code>
$\Join$	$\Join$	U+2A1D	<code>\Join*</code>
$\triangleleft$	$\triangleleft$	U+2A1E	<code>\bigtriangleleftleft*</code>
$\Join$	$\Join$	U+2A1F	<code>\zcmp*</code>
$\gg$	$\gg$	U+2A20	<code>\zpipe*</code>
$\uparrow$	$\uparrow$	U+2A21	<code>\zproject*</code>
$\Join$	$\Join$	U+2AFC	<code>\biginterleave</code>
$\Join$	$\Join$	U+2AFF	<code>\bigtalloblong*</code>

## 4.8 Delimiters

$///$	U+002F	<code>/</code>
$((((($	U+0028	<code>(</code>
$[[[[[$	U+005B	<code>[</code>

$\{\{\{\{\{$	U+007B	<code>\lbrace</code>
$\\$	U+005C	<code>\backslash</code>
$))))$	U+0029	<code>)</code>

$\lceil \lceil \lceil \lceil$	U+005D ]	$((((($	U+2985 \lParen*
$\} \} \} \}$	U+007D \rbrace	$\lceil \lceil \lceil \lceil$	U+2309 \rceil
$\lceil \lceil \lceil \lceil$	U+2308 \lceil	$\rfloor \rfloor \rfloor \rfloor$	U+230B \rfloor
$\lfloor \lfloor \lfloor \lfloor$	U+230A \lfloor	$\lceil \lceil \lceil \lceil$	U+23B1 \rmoustache*
$\lceil \lceil \lceil \lceil$	U+23B0 \lmoustache*	$\} \} \} \}$	U+2773 \rbrbrak*
$\lfloor \lfloor \lfloor \lfloor$	U+2772 \lbrbrak*	$\rfloor \rfloor \rfloor \rfloor$	U+27E7 \rBrack*
$\lceil \lceil \lceil \lceil$	U+27E6 \lBrack*	$\rangle \rangle \rangle \rangle$	U+27E9 \rangle, >
$\langle \langle \langle \langle$	U+27E8 \langle, <	$\rangle \rangle \rangle \rangle \rangle$	U+27EB \rangle*
$\langle \langle \langle \langle \langle$	U+27EA \langle*	$\rangle \rangle \rangle \rangle$	U+27EF \rangle*
$\lfloor \lfloor \lfloor \lfloor$	U+27EE \lgroup*	$\rfloor \rfloor \rfloor \rfloor$	U+2984 \rBrace*
$\{ \{ \{ \{$	U+2983 \lBrace*	$\rangle \rangle \rangle \rangle$	U+2986 \rParen*
$\lceil \lceil \lceil \lceil$	U+007C \vert,	$\Uparrow \Uparrow \Uparrow \Uparrow$	U+21D1 \Uparrow
$\lceil \lceil \lceil \lceil$	U+2016 \Vert*, \lvert	$\Downarrow \Downarrow \Downarrow \Downarrow$	U+21D3 \Downarrow
$\lceil \lceil \lceil \lceil$	U+2980 \Vvert	$\Updownarrow \Updownarrow \Updownarrow \Updownarrow$	U+21D5 \Updownarrow
$\Uparrow \Uparrow \Uparrow \Uparrow$	U+2191 \uparrow	$\Uparrow \Uparrow \Uparrow \Uparrow$	U+290A \Uparrow*
$\Downarrow \Downarrow \Downarrow \Downarrow$	U+2193 \downarrow	$\Downarrow \Downarrow \Downarrow \Downarrow$	U+290B \Ddownarrow*
$\Updownarrow \Updownarrow \Updownarrow \Updownarrow$	U+2195 \updownarrow	$\Uparrow \Uparrow \Uparrow \Uparrow$	U+27F0 \UUparrow*


 $\text{U}+27\text{F1}$ 
 $\searrow\text{Downarrow}^*$

U+XXXX `\arrowvert`

U+XXXX \Arrowvert

|||| U+XXXX \bracket\*

## 4.9 Other braccess

$\ulcorner$	U+231C	$\ulcorner$	corner*
$\urcorner$	U+231D	$\urcorner$	corner*
$\llcorner$	U+231E	$\llcorner$	corner*
$\lrcorner$	U+231F	$\lrcorner$	corner*
$\llbracket$	U+27EC	$\llbracket$	brak*
$\rrbracket$	U+27ED	$\rrbracket$	brak*
$\llparenthesis$	U+2987	$\llparenthesis$	*
$\rrparenthesis$	U+2988	$\rrparenthesis$	*
$\llangle$	U+2989	$\llangle$	*
$\rrangle$	U+298A	$\rrangle$	*
$\lbrack\bar{\phantom{x}}$	U+298B	$\lbrack\bar{\phantom{x}}$	*
$\rbrack\bar{\phantom{x}}$	U+298C	$\rbrack\bar{\phantom{x}}$	*
$\lbrack\multimap$	U+298D	$\lbrack\multimap$	*
$\rbrack\llcorner$	U+298E	$\rbrack\llcorner$	*
$\lbrack\llcorner$	U+298F	$\lbrack\llcorner$	*
$\rbrack\llcorner$	U+2990	$\rbrack\llcorner$	*
$\langle\dot{\phantom{x}}$	U+2991	$\langle\dot{\phantom{x}}$	*
$\rangle\dot{\phantom{x}}$	U+2992	$\rangle\dot{\phantom{x}}$	*

$\backslash$	U+2993	$\backslash$ lparenless*
$\rangle$	U+2994	$\backslash$ rparenengtr*
$\langle$	U+2995	$\backslash$ Lparenengtr*
$\rangle$	U+2996	$\backslash$ Rparenengtr*
$($	U+2997	$\backslash$ lblrbrak*
$)$	U+2998	$\backslash$ rlblrbrak*
$\sim$	U+29D8	$\backslash$ lvzigzag*
$\sim$	U+29D9	$\backslash$ rvzigzag*
$\sim$	U+29DA	$\backslash$ Lvzigzag*
$\sim$	U+29DB	$\backslash$ Rvzigzag*
$\angle$	U+29FC	$\backslash$ lcurvyangle*
$\angle$	U+29FD	$\backslash$ rcurvyangle*
$($	U+2772	$\backslash$ lbrbrak*
$)$	U+2773	$\backslash$ rbrbrak*
$\int$	U+27C5	$\backslash$ lbag*
$\int$	U+27C6	$\backslash$ rbag*
$($	U+27EC	$\backslash$ Lbrbrak*
$)$	U+27ED	$\backslash$ Rbrbrak*

## 4.10 Accents

$\grave{b}$	U+0300	\grave{grave}
$\acute{b}$	U+0301	\acute{acute}
$\hat{b}$	U+0302	\hat{hat}
$\tilde{b}$	U+0303	\tilde{tilde}
$\bar{b}$	U+0304	\bar{bar}
$\breve{b}$	U+0306	\breve{breve}
$\dot{b}$	U+0307	\dot{dot}
$\ddot{b}$	U+0308	\ddot{ddot}
$\overset{\circ}{b}$	U+0309	\overset{\circ}{ovhook}
$\mathring{b}$	U+030A	\mathring{mathring}
$\check{b}$	U+030C	\check{check}
$\c{b}$	U+0310	\c{candra}
$\oturnedcomma$	U+0312	\oturnedcomma

$\overline{b}$	U+0315	\ocommatopright
$\overline{b}$	U+031A	\droang
$\overline{b}$	U+20D0	\leftharpoonaccent
$\overline{b}$	U+20D1	\rightharpoonaccent
$\overleftarrow{b}$	U+20D6	\leftarrowaccent
$\overrightarrow{b}$	U+20D7	\vec, \rightarrowaccent
$\overleftrightarrow{b}$	U+20E1	\leftrightarrowaccent
$\overline{\overline{b}}$	U+20DB	\ddddot
$\overline{\overline{\overline{b}}}$	U+20DC	\dddddot
$\overline{\overline{b }}$	U+20E7	\annuity
$\overline{\overline{b}}$	U+20E9	\widebridgeabove
$\ast\overline{b}$	U+20F0	\asteraccent

$\widehat{xxx}$	U+0302	<code>\widehat*</code>	$\overleftrightarrow{xxx}$	U+20E1	<code>\overleftrightharpoonarrow</code>
$\widetilde{xxx}$	U+0303	<code>\widetilde*</code>	$\underline{\overleftrightarrow{xxx}}$	U+034D	<code>\underleftrightharpoonarrow</code>
$\widecheck{xxx}$	U+030C	<code>\widecheck*</code>	$\overleftarrow{xxx}$	U+20D0	<code>\overleftharpoonup</code>
$\overleftarrow{xxx}$	U+20D6	<code>\overleftarrow*</code>	$\overrightarrow{xxx}$	U+20D1	<code>\overrightarrow*</code>
$\overrightarrow{xxx}$	U+20D7	<code>\overrightarrow*</code>	$\underleftarrow{xxx}$	U+20EC	<code>\underleftharpoonup</code>
$\underleftarrow{xxx}$	U+20EF	<code>\underleftarrow*</code>	$\underrightarrow{xxx}$	U+20ED	<code>\underrightarrow*</code>
$\underrightarrow{xxx}$	U+20EE	<code>\underrightarrow*</code>			

OpenType STIX fonts include a number of under accents that can be used in math mode, but  $\TeX$  does not support under accents natively so such glyphs can not be used directly. Under accents can be set using regular accents and commands like `\underaccent` from the accents package, for example `\underaccent{\hat}{X}` gives  $\underset{\sim}{X}$ . The undertilde package provides `\utilde` for extensible under tilde accent.

#### 4.11 Over and under brackets

$\overbrace{xxxxxx}$	U+23B4	<code>\overbracket</code>	$\underbrace{xxxxxx}$	U+23B5	<code>\underbracket</code>
$\overparen{xxxxxx}$	U+23DC	<code>\overparen</code>	$\underparen{xxxxxx}$	U+23DD	<code>\underparen</code>
$\overbrace{xxxxxx}$	U+23DE	<code>\overbrace</code>	$\underbrace{xxxxxx}$	U+23DF	<code>\underbrace</code>

#### 4.12 Radicals

$\sqrt{b}$	U+221A	<code>\sqrt</code>	$\overline{b}$	U+27CC	<code>\longdivision*</code>
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## 5 Font tables

The rest of this document shows glyph tables for all STIX fonts. The name before each table is the  $\TeX$  font name (i.e. TFM file name).

Note that STIX fonts have no real smallcaps, the smallcaps below are synthesized (scaled down upper case letters).

### 5.1 Text fonts

ot1-stixgeneral

	'0	'1	'2	'3	'4	'5	'6	'7	
'00x	Γ	Δ	Θ	Λ	Ξ	Π	Σ	Υ	"0x
'01x	Φ	Ψ	Ω	ff	fi	fl	ffi	ffl	
'02x	ı	ı	`	˘	˘	˘	-	°	"1x
'03x	ı	ß	æ	œ	ø	Æ	Œ	Ø	
'04x		!	”	#	\$	%	&	,	"2x
'05x	(	)	*	+	,	-	.	/	
'06x	0	1	2	3	4	5	6	7	"3x
'07x	8	9	:	;	i	=	ı	?	
'10x	@	A	B	C	D	E	F	G	"4x
'11x	H	I	J	K	L	M	N	O	
'12x	P	Q	R	S	T	U	V	W	"5x
'13x	X	Y	Z	[	“	]	^	·	
'14x	‘	a	b	c	d	e	f	g	"6x
'15x	h	i	j	k	l	m	n	o	
'16x	p	q	r	s	t	u	v	w	"7x
'17x	x	y	z	—	—	~	~	..	
	"8	"9	"A	"B	"C	"D	"E	"F	

ot1-stixgeneralasc

	'0	'1	'2	'3	'4	'5	'6	'7	
'00x	Γ	Δ	Θ	Λ	Ξ	Π	Σ	Υ	"0x
'01x	Φ	Ψ	Ω	ff	fi	fl	ffi	ffl	
'02x	I	J	`	´	˘	˙	-	°	"1x
'03x	,	ss	Æ	œ	ø	Æ	Œ	Ø	
'04x		!	”	#	\$	%	&	,	"2x
'05x	(	)	*	+	,	-	.	/	
'06x	0	1	2	3	4	5	6	7	"3x
'07x	8	9	:	;	i	=	ı	?	
'10x	@	A	B	C	D	E	F	G	"4x
'11x	H	I	J	K	L	M	N	O	
'12x	P	Q	R	S	T	U	V	W	"5x
'13x	X	Y	Z	[	“	]	^	·	
'14x	‘	A	B	C	D	E	F	G	"6x
'15x	H	I	J	K	L	M	N	O	
'16x	P	Q	R	S	T	U	V	W	"7x
'17x	X	Y	Z	—	—	˜	˜	..	
	"8	"9	"A	"B	"C	"D	"E	"F	

t1-stixgeneral

	'0	'1	'2	'3	'4	'5	'6	'7	
'00x	`	´	^	~	¨	ˆ	°	˘	"0x
'01x	˘	ˉ	˙	˚	˛	˜	<	>	
'02x	“	”	„	«	»	–	—		"1x
'03x	◊	ı	Ј	ff	fi	fl	ffi	ffl	
'04x	_	!	"	#	\$	%	&	'	"2x
'05x	(	)	*	+	,	-	.	/	
'06x	0	1	2	3	4	5	6	7	"3x
'07x	8	9	:	;	<	=	>	?	
'10x	@	A	B	C	D	E	F	G	"4x
'11x	H	I	J	K	L	M	N	O	
'12x	P	Q	R	S	T	U	V	W	"5x
'13x	X	Y	Z	[	\	]	^	_	
'14x	‘	a	b	c	d	e	f	g	"6x
'15x	h	i	j	k	l	m	n	o	
'16x	p	q	r	s	t	u	v	w	"7x
'17x	x	y	z	{		}	~	-	
'20x	Ǻ	Ą	Ć	Č	Ǿ	Ě	Ɛ	Ǧ	"8x
'21x	Ł	Ł	Ł	Ń	Ň	Đ	Ŏ	Ř	
'22x	Ř	Ś	Š	Ş	Ť	Ţ	Ů	Ű	"9x
'23x	Ÿ	Ž	Ž	Ž	IJ	İ	đ	§	
'24x	ǻ	ą	ć	č	ǿ	ě	ɛ	ǧ	"Ax
'25x	í	ı	ı	ń	ň	ŋ	ő	ı	
'26x	ř	ś	š	ş	ť	ţ	ů	ű	"Bx
'27x	ÿ	ž	ž	ž	ij	i	đ	£	
'30x	À	Á	Â	Ã	Ä	Å	Æ	Ç	"Cx
'31x	È	É	Ê	Ë	Ì	Í	Î	Ï	
'32x	Ð	Ñ	Ò	Ó	Ô	Õ	Ö	Œ	"Dx
'33x	Ø	Ù	Ú	Û	Ü	Ý	Þ	ŠŠ	
'34x	à	á	â	ã	ä	å	æ	ç	"Ex
'35x	è	é	ê	ë	ì	í	î	ï	
'36x	ð	ñ	ò	ó	ô	õ	ö	œ	"Fx
'37x	ø	ù	ú	û	ü	ý	þ	ß	
	"8	"9	"A	"B	"C	"D	"E	"F	

\*"18 and "DF do not exist in STIX OpenType fonts, they were added as part of this package for compatability with T1 encoding.

t1-stixgeneralsc

	'0	'1	'2	'3	'4	'5	'6	'7	
'00x	`	´	^	~	¨	˝	°	˘	"0x
'01x	˘	ˉ	˙	˚	˛	˜	◁	▷	
'02x	“	”	„	«	»	–	—		"1x
'03x	◦	ℓ	ℓ	ff	fi	fl	ffi	ffl	
'04x	⌒	!	"	#	\$	%	&	'	"2x
'05x	(	)	*	+	,	-	.	/	
'06x	0	1	2	3	4	5	6	7	"3x
'07x	8	9	:	;	<	=	>	?	
'10x	@	A	B	C	D	E	F	G	"4x
'11x	H	I	J	K	L	M	N	O	
'12x	P	Q	R	S	T	U	V	W	"5x
'13x	X	Y	Z	[	\	]	^	_	
'14x	‘	A	B	C	D	E	F	G	"6x
'15x	H	I	J	K	L	M	N	O	
'16x	P	Q	R	S	T	U	V	W	"7x
'17x	x	Y	Z	{		}	~	-	
'20x	Ǻ	Ą	Ć	Č	Ď	Ě	Ę	Ǧ	"8x
'21x	Ł	Ł	Ł	Ń	Ň	Đ	Ő	Ŕ	
'22x	Ř	Ś	Š	Ş	Ť	Ț	Ů	Ű	"9x
'23x	Ỳ	Ẑ	Ẓ	Ẕ	И	İ	Đ	§	
'24x	Ǻ	Ą	Ć	Č	Ď	Ě	Ę	Ǧ	"Ax
'25x	Ł	Ł	Ł	Ń	Ň	Đ	Ő	Ŕ	
'26x	Ř	Ś	Š	Ş	Ť	Ț	Ů	Ű	"Bx
'27x	Ỳ	Ẑ	Ẓ	Ẕ	И	İ	Đ	§	
'30x	À	Á	Â	Ã	Ä	Å	Æ	Ç	"Cx
'31x	È	É	Ê	Ë	Ì	Í	Î	Ï	
'32x	Ð	Ñ	Ò	Ó	Ô	Õ	Ö	Œ	"Dx
'33x	Ø	Ù	Ú	Û	Ü	Ý	Þ	Š	
'34x	À	Á	Â	Ã	Ä	Å	Æ	Ç	"Ex
'35x	È	É	Ê	Ë	Ì	Í	Î	Ï	
'36x	Ð	Ñ	Ò	Ó	Ô	Õ	Ö	Œ	"Fx
'37x	Ø	Ù	Ú	Û	Ü	Ý	Þ	Š	
	"8	"9	"A	"B	"C	"D	"E	"F	

# ot2-stixgeneral

	'0	'1	'2	'3	'4	'5	'6	'7	
'00x	Ѓ	Ѕ	Ц	Э	Ї	Є	Ѓ	Ѓ	"0x
'01x	њ	љ	ц	э	і	є	ђ	ћ	
'02x	Ю	Ж	Й	Ё	Ѵ	Θ	Ѕ	Я	"1x
'03x	ю	ж	й	ё	ѵ	θ	ѕ	я	
'04x	„	!	”	Ѓ	”	%	’	’	"2x
'05x	(	)	*	Ѓ	,	-	.	/	
'06x	0	1	2	3	4	5	6	7	"3x
'07x	8	9	:	;	«	ı	»	?	
'10x	˘	А	Б	Ц	Д	Е	Ф	Г	"4x
'11x	Х	И	Ј	К	Л	М	Н	О	
'12x	П	Ч	Р	С	Т	У	В	Щ	"5x
'13x	Ш	Ы	З	[	“	]	Ь	Ђ	
'14x	‘	а	б	ц	д	е	ф	г	"6x
'15x	х	и	ј	к	л	м	н	о	
'16x	п	ч	р	с	т	у	в	щ	"7x
'17x	ш	ы	з	–	—	№	ь	ђ	
'22x			Ѓ						"9x
'23x									
'26x			Ѓ						"Bx
'27x									
	"8	"9	"A	"B	"C	"D	"E	"F	

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\*" 24 does not exist in STIX OpenType fonts, it was added as part of this package for compatability with OT2 encoding.

ot2-stixgeneralasc

	'0	'1	'2	'3	'4	'5	'6	'7	
'00x	Ъ	Ь	Ц	Э	І	Є	Ђ	Ћ	"0x
'01x	њ	љ	џ	э	і	є	ђ	ћ	
'02x	Ю	Ж	Й	Ё	Ѵ	Ө	Š	Я	"1x
'03x	ю	ж	й	ё	ѵ	ө	š	я	
'04x	“	!	”	Ђ	ˆ	%	’	,	"2x
'05x	(	)	*	Ђ	,	-	.	/	
'06x	0	1	2	3	4	5	6	7	"3x
'07x	8	9	:	;	«	й	»	?	
'10x	˘	А	Б	Ц	Д	Е	Ф	Г	"4x
'11x	Х	И	Ј	К	Л	М	Н	О	
'12x	П	Ч	Р	С	Т	У	В	Щ	"5x
'13x	Ш	Ы	З	[	“	]	Ь	Ђ	
'14x	‘	А	Б	Ц	Д	Е	Ф	Г	"6x
'15x	х	и	ј	к	л	м	н	о	
'16x	п	ч	р	с	т	у	в	щ	"7x
'17x	ш	ы	з	–	—	№	ь	ђ	
'22x			Ў						"9x
'23x									
'26x			Ў						"Bx
'27x									
	"8	"9	"A	"B	"C	"D	"E	"F	

ts1-stixgeneral

	'0	'1	'2	'3	'4	'5	'6	'7	
'00x	`	´	^	~	¨	“	°	˘	"0x
'01x	˘	-	·	‚	˙	,			
'02x			”						"1x
'03x	←	→							
'04x					\$			'	"2x
'05x			*		,		.	/	
'06x	o	1	2	3	4	5	6	7	"3x
'07x	8	9			<	-	>		
'10x									"4x
'11x						∅		○	
'12x								Ω	"5x
'13x				∥		∥	↑	↓	
'14x	`								"6x
'15x							♪		
'16x									"7x
'17x							~		
'20x	˘	˘	“	”	†	‡	∥	‰	"8x
'21x	•		\$	¢	f				
'22x			£	℞				™	"9x
'23x	‰			№	/	€	◊		
'24x			¢	£	¤	¥	!	§	"Ax
'25x	¨	©	ª		¬	®	®	-	
'26x	°	±	²	³	´	μ	¶	·	"Bx
'27x	※	¹	º	√	¼	½	¾	€	
'32x							×		"Dx
'33x									
'36x							÷		"Fx
'37x									
	"8	"9	"A	"B	"C	"D	"E	"F	

## 5.2 Math fonts

stix-mathrm

	'0	'1	'2	'3	'4	'5	'6	'7	
'00x	$\Gamma$	$\Delta$	$\Theta$	$\Lambda$	$\Xi$	$\Pi$	$\Sigma$	$\Upsilon$	"0x
'01x	$\Phi$	$\Psi$	$\Omega$	$\alpha$	$\beta$	$\gamma$	$\delta$	$\epsilon$	
'02x	$\zeta$	$\eta$	$\theta$	$\iota$	$\kappa$	$\lambda$	$\mu$	$\nu$	"1x
'03x	$\xi$	$\pi$	$\rho$	$\sigma$	$\tau$	$\upsilon$	$\phi$	$\chi$	
'04x	$\psi$	$\omega$	$\varepsilon$	$\vartheta$	$\varpi$	$\varrho$	$\varsigma$	$\varphi$	"2x
'05x	$\nabla$	$\partial$	$-$	$+$	$\pm$	$\mp$	$($	$)$	
'06x	0	1	2	3	4	5	6	7	"3x
'07x	8	9	:	;	*	=	\$	?	
'10x	!	A	B	C	D	E	F	G	"4x
'11x	H	I	J	K	L	M	N	O	
'12x	P	Q	R	S	T	U	V	W	"5x
'13x	X	Y	Z	[	\	]	{	/	
'14x	}	a	b	c	d	e	f	g	"6x
'15x	h	i	j	k	l	m	n	o	
'16x	p	q	r	s	t	u	v	w	"7x
'17x	x	y	z	ı	j	#	%	,	
'20x	`	´	^	~	-	˘	·	..	"8x
'21x	˘	˚	˘	˚	˘	˚	˘	˚	
'22x	–	—	→	...	....	↔	⌊	⌋	"9x
'23x	*	&	@	¬	·	×	≤	÷	
'24x	Z	/	ə	†	‡	•	..	...	"Ax
'25x	/	//	///	\	\\	\\\	^	!!	
'26x	·	/	??	○	////		○	□	"Bx
'27x	◇	△	ε	ϕ	ı	Å	⌈	⌋	
'30x	⌈	⌋	λ	ϕ	ϕ	∇	℄	∃	"Cx
'31x	⧻	∅	Δ	∈	∉	∈	∋	∉	
'32x	∋	■	‡	≥	\	◦	•	α	"Dx
'33x	∞	⊥	∠	⋈	⋈		†		
'34x	‡	∧	∨	∩	∪	∴	∴	∅	"Ex
'35x	∴	÷	∴	≡	≈	≈	≈	≈	
'36x	≈	≈	≈	≈	≈	≈	≈	≈	"Fx
'37x	≈	≈	≈	≈	≈	≈	≈	≈	
	"8	"9	"A	"B	"C	"D	"E	"F	

stix-mathit

	'0	'1	'2	'3	'4	'5	'6	'7	
'00x	$\Gamma$	$\Delta$	$\Theta$	$\Lambda$	$\Xi$	$\Pi$	$\Sigma$	$\Upsilon$	"0x
'01x	$\Phi$	$\Psi$	$\Omega$	$\alpha$	$\beta$	$\gamma$	$\delta$	$\epsilon$	
'02x	$\zeta$	$\eta$	$\theta$	$\iota$	$\kappa$	$\lambda$	$\mu$	$\nu$	"1x
'03x	$\xi$	$\pi$	$\rho$	$\sigma$	$\tau$	$\upsilon$	$\phi$	$\chi$	
'04x	$\psi$	$\omega$	$\varepsilon$	$\vartheta$	$\varpi$	$\varrho$	$\varsigma$	$\varphi$	"2x
'05x	$\nabla$	$\partial$	$\Re$	$\beth$	$\lambda$	$\daleth$	$\triangleright$	$\triangleleft$	
'06x	0	1	2	3	4	5	6	7	"3x
'07x	8	9	.	,	<	$\hbar$	>	★	
'10x	$\lesseqgtr$	A	B	C	D	E	F	G	"4x
'11x	H	I	J	K	L	M	N	O	
'12x	P	Q	R	S	T	U	V	W	"5x
'13x	X	Y	Z	b	q	#	⌋	⌈	
'14x	$\hbar$	a	b	c	d	e	f	g	"6x
'15x	h	i	j	k	l	m	n	o	
'16x	p	q	r	s	t	u	v	w	"7x
'17x	x	y	z	ι	J	$\geq$	$\ll$	⌈	
'20x	`	'	^	~	-	˘	·	..	"8x
'21x	ˆ	˚	˘	˙	˚	˙	˚	˙	
'22x	-	+	→	...	....	↔	⌊	⌋	"9x
'23x	*	-	^	~	˘	˘	˘	˘	
'24x	⌈	⌊	⌋	⌈	⌊	⌋	⌈	⌊	"Ax
'25x	⌊	⌈	⌊	⌈	⌊	⌈	⌊	⌈	
'26x	⌈	⌊	⌈	⌊	⌈	⌊	⌈	⌊	"Bx
'27x	$\gg$	$\nexists$	$\neq$	$\neq$	$\neq$	$\neq$	$\neq$	$\approx$	
'30x	$\gtrsim$	$\nless$	$\nless$	$\lessgtr$	$\lessgtr$	$\nless$	$\nless$	$\prec$	"Cx
'31x	$\succ$	$\lessgtr$	$\lessgtr$	$\lessgtr$	$\lessgtr$	$\nless$	$\nless$	$\subset$	
'32x	$\supset$	$\nless$	$\nless$	$\subseteq$	$\supseteq$	$\nless$	$\nless$	$\subsetneq$	"Dx
'33x	$\nless$	$\nless$	$\nless$	$\nless$	$\nless$	$\nless$	$\nless$	$\nless$	
'34x	$\sqcap$	$\sqcup$	$\oplus$	$\ominus$	$\otimes$	$\oslash$	$\odot$	$\odot$	"Ex
'35x	$\oplus$	$\ominus$	$\ominus$	$\boxplus$	$\boxminus$	$\boxtimes$	$\boxdot$	$\vdash$	
'36x	$\dashv$	$\top$	$\perp$	$\vdash$	$\models$	$\models$	$\Vdash$	$\Vdash$	"Fx
'37x	$\models$	$\nless$	$\nless$	$\nless$	$\nless$	$\nless$	$\nless$	$\nless$	
	"8	"9	"A	"B	"C	"D	"E	"F	

stix-mathsf

	'0	'1	'2	'3	'4	'5	'6	'7	
'00x	Γ	Δ	Θ	Λ	Ξ	Π	Σ	Υ	"0x
'01x	Φ	Ψ	Ω	α	β	γ	δ	ε	
'02x	ζ	η	θ	ι	κ	λ	μ	ν	"1x
'03x	ξ	π	ρ	σ	τ	υ	φ	χ	
'04x	ψ	ω	ε	θ	ϖ	ϱ	ς	φ	"2x
'05x	∇	∂	¢	‚	-	=	≡	≡	
'06x	0	1	2	3	4	5	6	7	"3x
'07x	8	9	ı	ı	ı	ıı	ııı	ıııı	
'10x	↗	A	B	C	D	E	F	G	"4x
'11x	H	I	J	K	L	M	N	O	
'12x	P	Q	R	S	T	U	V	W	"5x
'13x	X	Y	Z	↵	↵	↵	↵	↵	
'14x	↵	a	b	c	d	e	f	g	"6x
'15x	h	i	j	k	l	m	n	o	
'16x	p	q	r	s	t	u	v	w	"7x
'17x	x	y	z	ı	j	↑	↑	(	
'20x	`	´	^	˘	-	˙	˙	˙	"8x
'21x	˘	˘	˘	˘	˘	˘	˘	˘	
'22x	˘	˘	˘	˘	˘	˘	˘	˘	"9x
'23x	*	→	↓	↔	↕	↗	↘	↙	
'24x	↗	↖	↗	↖	↖	↖	↖	↖	"Ax
'25x	↓	↖	↗	↖	↖	↖	↖	↖	
'26x	↖	↖	↖	↖	↖	↖	↖	↖	"Bx
'27x	↖	↖	↖	↖	↖	↖	↖	↖	
'30x	↖	↖	↖	↖	↖	↖	↖	↖	"Cx
'31x	↖	↖	↖	↖	↖	↖	↖	↖	
'32x	↖	↖	↖	↖	↖	↖	↖	↖	"Dx
'33x	↖	↖	↖	↖	↖	↖	↖	↖	
'34x	↖	↖	↖	↖	↖	↖	↖	↖	"Ex
'35x	↖	↖	↖	↖	↖	↖	↖	↖	
'36x	↖	↖	↖	↖	↖	↖	↖	↖	"Fx
'37x	↖	↖	↖	↖	↖	↖	↖	↖	
	"8	"9	"A	"B	"C	"D	"E	"F	

\*"28, "3A, "7B and "7C do not exist in STIX OpenType fonts.

stix-mathsf

	'0	'1	'2	'3	'4	'5	'6	'7	
'00x	$\Gamma$	$\Delta$	$\Theta$	$\Lambda$	$\Xi$	$\Pi$	$\Sigma$	$\Upsilon$	"0x
'01x	$\Phi$	$\Psi$	$\Omega$	$\alpha$	$\beta$	$\gamma$	$\delta$	$\epsilon$	
'02x	$\zeta$	$\eta$	$\theta$	$\iota$	$\kappa$	$\lambda$	$\mu$	$\nu$	"1x
'03x	$\xi$	$\pi$	$\rho$	$\sigma$	$\tau$	$\upsilon$	$\phi$	$\chi$	
'04x	$\psi$	$\omega$	$\varepsilon$	$\vartheta$	$\varpi$	$\varrho$	$\varsigma$	$\varphi$	"2x
'05x	$\nabla$	$\partial$	$\oplus$	$\leftarrow$	$\leftrightarrow$	$\rightleftarrows$	$\leftarrow$	$\leftarrow$	
'06x	0	1	2	3	4	5	6	7	"3x
'07x	8	9	$\leftarrow$	$\leftrightarrow$	$\rightleftarrows$	$\leftarrow$	$\leftrightarrow$	$\rightleftarrows$	
'10x	$\leftrightarrow$	A	B	C	D	E	F	G	"4x
'11x	H	I	J	K	L	M	N	O	
'12x	P	Q	R	S	T	U	V	W	"5x
'13x	X	Y	Z	$\leftarrow$	$\leftrightarrow$	$\leftarrow$	$\leftarrow$	$\rightarrow$	
'14x	$\rightarrow$	a	b	c	d	e	f	g	"6x
'15x	h	i	j	k	l	m	n	o	
'16x	p	q	r	s	t	u	v	w	"7x
'17x	x	y	z	l	J	$\leftrightarrow$	$\rightarrow$	$\leftarrow$	
'20x	`	´	^	~	-	˘	˙	¨	"8x
'21x	˘	˙	˚	˛	ˆ	˜	˘	˙	
'22x	˘	˙	˚	˛	ˆ	˜	˘	˙	"9x
'23x	*	$\rightarrow$	$\rightarrow$	$\leftrightarrow$	$\rightarrow$	$\leftrightarrow$	$\rightarrow$	$\leftarrow$	
'24x	$\rightarrow$	$\downarrow$	$\uparrow$	$\leftrightarrow$	$\leftrightarrow$	$\leftarrow$	$\rightarrow$	$\leftarrow$	"Ax
'25x	$\rightarrow$	$\rightarrow$	$\rightarrow$	$\uparrow$	$\downarrow$	$\rightarrow$	$\rightarrow$	$\rightarrow$	
'26x	$\rightarrow$	$\rightarrow$	$\rightarrow$	$\rightarrow$	$\rightarrow$	$\rightarrow$	$\rightarrow$	$\rightarrow$	"Bx
'27x	$\rightarrow$	$\rightarrow$	$\rightarrow$	$\rightarrow$	$\rightarrow$	$\rightarrow$	$\rightarrow$	$\rightarrow$	
'30x	$\times$	$\times$	$\times$	$\times$	$\times$	$\times$	$\times$	$\times$	"Cx
'31x	$\times$	$\times$	$\times$	$\times$	$\times$	$\times$	$\times$	$\times$	
'32x	$\hookrightarrow$	$\hookrightarrow$	$\hookrightarrow$	$\hookrightarrow$	$\hookrightarrow$	$\hookrightarrow$	$\hookrightarrow$	$\hookrightarrow$	"Dx
'33x	$\hookrightarrow$	$\hookrightarrow$	$\hookrightarrow$	$\hookrightarrow$	$\hookrightarrow$	$\hookrightarrow$	$\hookrightarrow$	$\hookrightarrow$	
'34x	$\rightarrow$	$\rightarrow$	$\rightarrow$	$\rightarrow$	$\rightarrow$	$\rightarrow$	$\rightarrow$	$\rightarrow$	"Ex
'35x	$\rightarrow$	$\rightarrow$	$\rightarrow$	$\rightarrow$	$\rightarrow$	$\rightarrow$	$\rightarrow$	$\rightarrow$	
'36x	$\rightarrow$	$\rightarrow$	$\rightarrow$	$\rightarrow$	$\rightarrow$	$\rightarrow$	$\rightarrow$	$\rightarrow$	"Fx
'37x	$\rightarrow$	$\rightarrow$	$\rightarrow$	$\rightarrow$	$\rightarrow$	$\rightarrow$	$\rightarrow$	$\rightarrow$	
	"8	"9	"A	"B	"C	"D	"E	"F	

\*"28, "7B and "7C do not exist in STIX OpenType fonts.

stix-mathtt

	'0	'1	'2	'3	'4	'5	'6	'7	
'00x									"0x
'01x									
'02x									"1x
'03x									
'04x									"2x
'05x									
'06x	0	1	2	3	4	5	6	7	"3x
'07x	8	9							
'10x		A	B	C	D	E	F	G	"4x
'11x	H	I	J	K	L	M	N	O	
'12x	P	Q	R	S	T	U	V	W	"5x
'13x	X	Y	Z						
'14x		a	b	c	d	e	f	g	"6x
'15x	h	i	j	k	l	m	n	o	
'16x	p	q	r	s	t	u	v	w	"7x
'17x	x	y	z	1	2	3	4	5	
'20x	o	o	✓	✕	✕	*	*		"8x
'21x									
'22x									"9x
'23x									
'24x	☆	×	×	×	×	×	×	×	"Ax
'25x									
'26x	∪	∩	∪	∩	∪	∩	∪	∩	"Bx
'27x	∪	∩							
	"8	"9	"A	"B	"C	"D	"E	"F	

\*"7B and "7C do not exist in STIX OpenType fonts.

stix-mathbb

	'0	'1	'2	'3	'4	'5	'6	'7	
'00x	ℓ					ℓ			"0x
'01x						ℓ			
'02x									"1x
'03x		ℓ							
'04x							ℓ	ℓ	"2x
'05x	ℓ	ℓ	ℓ	ℓ	ℓ	ℓ	ℓ	ℓ	
'06x	0	1	2	3	4	5	6	7	"3x
'07x	8	9	ℓ	ℓ	ℓ	ℓ	ℓ	ℓ	
'10x	ℓ	A	B	C	D	E	F	G	"4x
'11x	H	I	J	K	L	M	N	O	
'12x	P	Q	R	S	T	U	V	W	"5x
'13x	X	Y	Z	ℓ	ℓ	ℓ	ℓ	ℓ	
'14x	ℓ	a	b	c	d	e	f	g	"6x
'15x	h	i	j	k	l	m	n	o	
'16x	p	q	r	s	t	u	v	w	"7x
'17x	x	y	z	ℓ	ℓ	ℓ	ℓ	ℓ	
'20x	˘	˘	˘	˘	˘	˘	˘	˘	"8x
'21x	˙	˙	˙	˙	˙	˙	˙	˙	
'22x	˚	˚	˚	˚	˚	˚	˚	˚	"9x
'23x	*	ℓ	ℓ	ℓ	ℓ	ℓ	ℓ	ℓ	
'24x	ℓ	ℓ	ℓ	ℓ	ℓ	ℓ	ℓ	ℓ	"Ax
'25x	ℓ	ℓ	ℓ	ℓ	ℓ	ℓ	ℓ	ℓ	
'26x	ℓ	ℓ	ℓ	ℓ	ℓ	ℓ	ℓ	ℓ	"Bx
'27x	ℓ	ℓ	ℓ	ℓ	ℓ	ℓ	ℓ	ℓ	
'30x	ℓ	ℓ	ℓ	ℓ	ℓ	ℓ	ℓ	ℓ	"Cx
'31x	ℓ	ℓ	ℓ	ℓ	ℓ	ℓ	ℓ	ℓ	
'32x	ℓ	ℓ	ℓ	ℓ	ℓ	ℓ	ℓ	ℓ	"Dx
'33x	ℓ	ℓ	ℓ	ℓ	ℓ	ℓ	ℓ	ℓ	
'34x	ℓ	ℓ	ℓ	ℓ	ℓ	ℓ	ℓ	ℓ	"Ex
'35x	ℓ	ℓ	ℓ	ℓ	ℓ	ℓ	ℓ	ℓ	
'36x	ℓ	ℓ	ℓ	ℓ	ℓ	ℓ	ℓ	ℓ	"Fx
'37x	ℓ	ℓ	ℓ	ℓ	ℓ	ℓ	ℓ	ℓ	
	"8	"9	"A	"B	"C	"D	"E	"F	

\*"7B and "7C do not exist in STIX OpenType fonts.

stix-mathbbbit

	'0	'1	'2	'3	'4	'5	'6	'7	
'00x									"0x
'01x									
'02x									"1x
'03x									
'04x									"2x
'05x									
'06x	0	1	2	3	4	5	6	7	"3x
'07x	8	9							
'10x		A	B	C	D	E	F	G	"4x
'11x	H	I	J	K	L	M	N	O	
'12x	P	Q	R	S	T	U	V	W	"5x
'13x	X	Y	Z						
'14x		a	b	c	d	e	f	g	"6x
'15x	h	i	j	k	l	m	n	o	
'16x	p	q	r	s	t	u	v	w	"7x
'17x	x	y	z	ı	ſ	£		(	
'20x	`	´	^	~	-	˘	˙	¨	"8x
'21x	´	ˆ	˘	˙	˚	˛	˜	˝	
'22x	ˆ	˜	˝	...	....	↔	⌈	⌋	"9x
'23x	*	⊄	⊅	⊆	⊇	⊈	⊉	⊊	
'24x	⊋	⊌	⊍	⊎	⊏	⊐	⊑	⊒	"Ax
'25x	⊓	⊔	⊕	⊖	⊗	⊘	⊙	⊚	
'26x	⊛	⊜	⊝	⊞	⊟	⊠	⊡	⊢	"Bx
'27x	⊣	⊤	⊥	⊦	⊧	⊨	⊩	⊪	
'30x	⋈	⋉	⋊	⋋	⋌	⋍	⋎	⋏	"Cx
'31x	⋐	⋑	⋒	⋓	⋔	⋕	⋖	⋗	
'32x	◼	◻	◼	◻	◼	◻	◼	◻	"Dx
'33x	•	◦	◐	◑	◒	◓	◔	◕	
'34x	◖	◗	◘	◙	◚	◛	◜	◝	"Ex
'35x	◞	◟	◠	◡	◢	◣	◤	◥	
'36x	◦	◐	◑	◒	◓	◔	◕	◖	"Fx
'37x	◗	◘	◙	◚	◛	◜	◝	◞	
	"8	"9	"A	"B	"C	"D	"E	"F	

\*"7B and "7C do not exist in STIX OpenType fonts.

stix-mathscr

































	'0	'1	'2	'3	'4	'5	'6	'7	
'00x	$\sqsupseteq$	$\circ\!\!\!\circ$	$\circ\!\!\!\circ$	$\circ\!\!\!\circ$	$\div$	$\top$	$\vee$	$\bar{\wedge}$	"0x
'01x	$\nabla$	$\lrcorner$	$\triangleleft$	$\diamond$	$\cdot$	$\ast$	$\boxtimes$	$\ltimes$	
'02x	$\times$	$\lambda$	$\lless$	$\lesssim$	$\gamma$	$\wedge$	$\in$	$\ni$	"1x
'03x	$\mathfrak{m}$	$\mathfrak{U}$	$\mathfrak{M}$	$\#$	$\lessgtr$	$\gtrless$	$\lll$	$\ggg$	
'04x	$\lesseqgtr$	$\gtrlessgtr$	$\lessgtr$	$\gtrless$	$\lessgtr$	$\gtrless$	$\not\lessgtr$	$\not\gtrless$	"2x
'05x	$\nexists$	$\nexists$	$\nexists$	$\nexists$	$\nexists$	$\nexists$	$\nexists$	$\nexists$	
'06x	$\nexists$	$\nexists$	$\nexists$	$\nexists$	$\vdots$	$\dots$	$\ddots$	$\ddots$	"3x
'07x	$\in$	$\in$	$\in$	$\in$	$\in$	$\in$	$\in$	$\in$	
'10x	$\ni$	$\mathcal{A}$	$\mathcal{B}$	$\mathcal{C}$	$\mathcal{D}$	$\mathcal{E}$	$\mathcal{F}$	$\mathcal{G}$	"4x
'11x	$\mathcal{H}$	$\mathcal{I}$	$\mathcal{J}$	$\mathcal{K}$	$\mathcal{L}$	$\mathcal{M}$	$\mathcal{N}$	$\mathcal{O}$	
'12x	$\mathcal{P}$	$\mathcal{Q}$	$\mathcal{R}$	$\mathcal{S}$	$\mathcal{T}$	$\mathcal{U}$	$\mathcal{V}$	$\mathcal{W}$	"5x
'13x	$\mathcal{X}$	$\mathcal{Y}$	$\mathcal{Z}$	$\mathfrak{D}$	$\mathfrak{D}$	$\mathfrak{D}$	$\mathfrak{D}$	$\mathfrak{D}$	
'14x	$\emptyset$	$\mathfrak{a}$	$\mathfrak{b}$	$\mathfrak{c}$	$\mathfrak{d}$	$\mathfrak{e}$	$\mathfrak{f}$	$\mathfrak{g}$	"6x
'15x	$\mathfrak{h}$	$\mathfrak{i}$	$\mathfrak{j}$	$\mathfrak{k}$	$\mathfrak{l}$	$\mathfrak{m}$	$\mathfrak{n}$	$\mathfrak{o}$	
'16x	$\mathfrak{p}$	$\mathfrak{q}$	$\mathfrak{r}$	$\mathfrak{s}$	$\mathfrak{t}$	$\mathfrak{u}$	$\mathfrak{v}$	$\mathfrak{w}$	"7x
'17x	$\mathfrak{x}$	$\mathfrak{y}$	$\mathfrak{z}$	$\mathfrak{z}$	$\mathfrak{z}$	$\mathfrak{z}$	$\mathfrak{z}$	$\mathfrak{z}$	
'20x	$\backslash$	$\prime$	$\wedge$	$\sim$	$-$	$\sim$	$\cdot$	$\cdot$	"8x
'21x	$\cdot$	$\circ$	$\vee$	$\vee$	$\cdot$	$\cdot$	$\cdot$	$\cdot$	
'22x	$\leftarrow$	$\leftarrow$	$\rightarrow$	$\dots$	$\dots$	$\rightarrow$	$\lrcorner$	$\lrcorner$	"9x
'23x	$*$	$\bar{\wedge}$	$\bar{\wedge}$	$\lrcorner$	$\square$	$\cup$	$\cap$	$\#$	
'24x	$\lrcorner$	$\lrcorner$	$\lrcorner$	$\lrcorner$	$\lrcorner$	$\mathfrak{D}$	$\mathfrak{D}$	$\mathfrak{D}$	"Ax
'25x	$\oplus$	$\dagger$	$\ddagger$	$\boxtimes$	$\boxtimes$	$\boxtimes$	$\boxtimes$	$\boxtimes$	
'26x	$\square$	$\odot$	$\square$	$\square$	$\square$	$\square$	$\square$	$\square$	"Bx
'27x	$\square$	$\square$	$\square$	$\square$	$\square$	$\square$	$\square$	$\square$	
'30x	$\square$	$\square$	$\square$	$\square$	$\square$	$\square$	$\square$	$\square$	"Cx
'31x	$\square$	$\blacktriangle$	$\triangle$	$\blacktriangle$	$\triangle$	$\blacktriangle$	$\triangle$	$\blacktriangle$	
'32x	$\blacktriangle$	$\blacktriangle$	$\blacktriangle$	$\blacktriangle$	$\blacktriangle$	$\blacktriangle$	$\blacktriangle$	$\blacktriangle$	"Dx
'33x	$\blacktriangle$	$\blacktriangle$	$\blacktriangle$	$\blacktriangle$	$\blacktriangle$	$\blacktriangle$	$\blacktriangle$	$\blacktriangle$	
'34x	$\odot$	$\diamond$	$\circ$	$\circ$	$\odot$	$\odot$	$\odot$	$\odot$	"Ex
'35x	$\odot$	$\odot$	$\odot$	$\odot$	$\odot$	$\odot$	$\odot$	$\odot$	
'36x	$\odot$	$\odot$	$\odot$	$\odot$	$\odot$	$\odot$	$\odot$	$\odot$	"Fx
'37x	$\odot$	$\odot$	$\odot$	$\odot$	$\odot$	$\odot$	$\odot$	$\odot$	
	"8	"9	"A	"B	"C	"D	"E	"F	

\*"7B and "7C do not exist in STIX OpenType fonts.

stix-mathcal

	'0	'1	'2	'3	'4	'5	'6	'7	
'00x	$\int$	$\iint$	$\iiint$	$\oint$	$\oint$	$\oint$	$\int$	$\oint$	"0x
'01x	$\oint$	$\oint$	$\oint$	$\int$	$\int$	$\int$	$\int$	$\int$	
'02x	$\int$	$\int$	$\int$	$\int$	$\int$	$\int$	$\int$	$\int$	"1x
'03x	$\int$	$\int$	$\int$	$\int$	$\int$	$\int$	$\int$	$\int$	
'04x	$\oint$	$\oint$	$\oint$	$\oint$	$\oint$	$\oint$	$\int$	$\int$	"2x
'05x	$\int$	$\int$	$\int$	$\int$	$\int$	$\int$	$\int$	$\int$	
'06x	$\int$	$\int$	$\int$	$\int$	$\int$	$\int$			"3x
'07x			$\otimes$	$\otimes$	$\setminus$	$\setminus$	$\partial$	$\cap$	
'10x	$\cup$	$\mathcal{A}$	$\mathcal{B}$	$\mathcal{C}$	$\mathcal{D}$	$\mathcal{E}$	$\mathcal{F}$	$\mathcal{G}$	"4x
'11x	$\mathcal{H}$	$\mathcal{I}$	$\mathcal{J}$	$\mathcal{K}$	$\mathcal{L}$	$\mathcal{M}$	$\mathcal{N}$	$\mathcal{O}$	
'12x	$\mathcal{P}$	$\mathcal{Q}$	$\mathcal{R}$	$\mathcal{S}$	$\mathcal{T}$	$\mathcal{U}$	$\mathcal{V}$	$\mathcal{W}$	"5x
'13x	$\mathcal{X}$	$\mathcal{Y}$	$\mathcal{Z}$	$\geq$	$\leq$	$\dagger$	$\ddagger$	$\dagger$	
'14x	$\parallel$	$\nsubseteq$	$\supsetneq$	$\nsubseteq$	$\supsetneq$	$\equiv$	$\leq$	$\geq$	"6x
'15x	$\leq$	$\geq$							
'16x									"7x
'17x			$\times$	$F$	$\vartheta$	$\forall$	$\alpha$	$\cap$	
'20x	$\approx$	$\doteq$	$\doteq$	$\doteq$	$\doteq$	$\doteq$	$\doteq$	$\doteq$	"8x
'21x	$\doteq$	$\doteq$	$\doteq$	$\doteq$	$\doteq$	$\doteq$	$\doteq$	$\doteq$	
'22x	$\doteq$	$\neq$	$\equiv$	$\neq$	$\int$	$\iint$	$\iiint$	$\oint$	"9x
'23x	$\oint$	$\oint$	$\int$	$\oint$	$\oint$	$\oint$	$\oint$	$\int$	
'24x	$\int$	$\int$	$\int$	$\int$	$\int$	$\int$	$\int$	$\int$	"Ax
'25x	$\int$	$\int$	$\int$	$\int$	$\int$	$\int$	$\int$	$\int$	
'26x	$\int$	$\int$	$\oint$	$\oint$	$\oint$	$\int$	$\oint$	$\oint$	"Bx
'27x	$\oint$	$\oint$	$\int$	$\int$	$\int$	$\int$	$\int$	$\int$	
'30x	$\int$	$\int$	$\oint$	$\oint$	$\oint$	$\int$	$\int$	$\int$	"Cx
'31x	$\int$	$\int$	$\int$	$\int$	$\int$	$\oint$	$\oint$	$\oint$	
'32x	$\int$	$\oint$	$\oint$	$\oint$	$\oint$	$\int$	$\int$	$\int$	"Dx
'33x	$\int$	$\int$	$\int$	$\int$	$\int$	$\int$	$\int$	$\int$	

\*"09, "24, "9D, "B8, "D3 and "EE do not exist in **bold** STIX OpenType fonts.

'34x									"Ex
'35x									
'36x									"Fx
'37x									
	"8	"9	"A	"B	"C	"D	"E	"F	

stix-mathfrak

	'0	'1	'2	'3	'4	'5	'6	'7	
'00x	$\odot$	$\rightarrow$	$\nwarrow$	$\triangle$	$\perp$	$\oslash$	$\oslash$	$\wr$	"0x
'01x	$\int$	$\nabla$	$\nabla$	$\nabla$	$\diamond$	$\wedge$	$\mathbb{W}$	$\lrcorner$	
'02x	$\Gamma$	$\bowtie$	$\bowtie$	$\bowtie$	$\perp$	$\top$	$\neq$	$\neq$	"1x
'03x	$\circ$	$\top$	$\top$	$\top$	$\diamond$	$\diamond$	$\diamond$	$\diamond$	
'04x	$\square$	$\square$	$\square$	$\square$	$\bullet$	$\circ$	$\square$	$\square$	"2x
'05x	$\lceil$	$\rceil$	$\lceil$	$\rceil$	$\lceil$	$\rceil$	$\lceil$	$\rceil$	
'06x	$\langle$	$\rangle$	$\langle$	$\rangle$	$\langle$	$\rangle$	$\langle$	$\rangle$	"3x
'07x	$\vdots$	$\vdots$	$\vdots$	$\vdots$	$\vdots$	$\vdots$	$\vdots$	$\vdots$	
'10x	$\forall$	$\mathfrak{A}$	$\mathfrak{B}$	$\mathfrak{C}$	$\mathfrak{D}$	$\mathfrak{E}$	$\mathfrak{F}$	$\mathfrak{G}$	"4x
'11x	$\mathfrak{H}$	$\mathfrak{I}$	$\mathfrak{J}$	$\mathfrak{K}$	$\mathfrak{L}$	$\mathfrak{M}$	$\mathfrak{N}$	$\mathfrak{O}$	
'12x	$\mathfrak{P}$	$\mathfrak{Q}$	$\mathfrak{R}$	$\mathfrak{S}$	$\mathfrak{T}$	$\mathfrak{U}$	$\mathfrak{V}$	$\mathfrak{W}$	"5x
'13x	$\mathfrak{X}$	$\mathfrak{Y}$	$\mathfrak{Z}$	$\mathfrak{A}$	$\mathfrak{B}$	$\mathfrak{C}$	$\mathfrak{D}$	$\mathfrak{E}$	
'14x	$\mathfrak{F}$	$\mathfrak{a}$	$\mathfrak{b}$	$\mathfrak{c}$	$\mathfrak{d}$	$\mathfrak{e}$	$\mathfrak{f}$	$\mathfrak{g}$	"6x
'15x	$\mathfrak{h}$	$\mathfrak{i}$	$\mathfrak{j}$	$\mathfrak{k}$	$\mathfrak{l}$	$\mathfrak{m}$	$\mathfrak{n}$	$\mathfrak{o}$	
'16x	$\mathfrak{p}$	$\mathfrak{q}$	$\mathfrak{r}$	$\mathfrak{s}$	$\mathfrak{t}$	$\mathfrak{u}$	$\mathfrak{v}$	$\mathfrak{w}$	"7x
'17x	$\mathfrak{x}$	$\mathfrak{y}$	$\mathfrak{z}$	$\mathfrak{t}$	$\mathfrak{l}$	$\mathfrak{A}$	$\mathfrak{B}$	$\mathfrak{C}$	
'20x	$\backslash$	$\backslash$	$\wedge$	$\sim$	$\sim$	$\sim$	$\sim$	$\sim$	"8x
'21x	$\sim$	$\circ$	$\sim$	$\circ$	$\sim$	$\circ$	$\sim$	$\circ$	
'22x	$\sim$	$\sim$	$\sim$	$\sim$	$\sim$	$\sim$	$\sim$	$\sim$	"9x
'23x	$*$	$\nabla$	$\nabla$	$\nabla$	$\nabla$	$\nabla$	$\nabla$	$\nabla$	
'24x	$\oslash$	$\oslash$	$\oslash$	$\oslash$	$\oslash$	$\oslash$	$\oslash$	$\oslash$	"Ax
'25x	$\oslash$	$\oslash$	$\oslash$	$\oslash$	$\oslash$	$\oslash$	$\oslash$	$\oslash$	
'26x	$\oslash$	$\oslash$	$\oslash$	$\oslash$	$\oslash$	$\oslash$	$\oslash$	$\oslash$	"Bx
'27x	$\oslash$	$\oslash$	$\oslash$	$\oslash$	$\oslash$	$\oslash$	$\oslash$	$\oslash$	
'30x	$\bowtie$	$\bowtie$	$\bowtie$	$\bowtie$	$\bowtie$	$\bowtie$	$\bowtie$	$\bowtie$	"Cx
'31x	$\bowtie$	$\bowtie$	$\bowtie$	$\bowtie$	$\bowtie$	$\bowtie$	$\bowtie$	$\bowtie$	
'32x	$\neq$	$\neq$	$\neq$	$\neq$	$\neq$	$\neq$	$\neq$	$\neq$	"Dx
'33x	$\nabla$	$\nabla$	$\nabla$	$\nabla$	$\nabla$	$\nabla$	$\nabla$	$\nabla$	
'34x	$\nabla$	$\nabla$	$\nabla$	$\nabla$	$\nabla$	$\nabla$	$\nabla$	$\nabla$	"Ex
'35x	$\neq$	$\neq$	$\neq$	$\neq$	$\neq$	$\neq$	$\neq$	$\neq$	
'36x	$\gg$	$\uparrow$	$\uparrow$	$\uparrow$	$\uparrow$	$\uparrow$	$\uparrow$	$\uparrow$	"Fx
'37x	$\neq$	$\neq$	$\neq$	$\neq$	$\neq$	$\neq$	$\neq$	$\neq$	
	"8	"9	"A	"B	"C	"D	"E	"F	

\*"7B and "7C do not exist in STIX OpenType fonts.

stix-mathex

	'0	'1	'2	'3	'4	'5	'6	'7	
'00x	(	)	(	)	[	]	[	]	"0x
'01x	[	]	[	]	{	}	{	}	
'02x	<	>	<<	>>	(	)	/	\	"1x
'03x	(	)	(	)	[	]	[	]	
'04x	[	]	[	]	{	}	{	}	"2x
'05x	<	>	<<	>>	(	)	/	\	
'06x	(	)	(	)	[	]	[	]	"3x
'07x	[	]	[	]	{	}	{	}	
'10x	<	>	<<	>>	(	)	/	\	"4x
'11x	(	)	(	)	[	]	[	]	
'12x	[	]	[	]	{	}	{	}	"5x
'13x	<	>	<<	>>	(	)	/	\	
'14x	(	)	(	)	[	]	[	]	"6x
'15x	(	)	(	)	{	}	{	}	

'16x	⌊	⌋	⌈	⌉	√	√	√	√	"7x
'17x	⌋	⌈							
'26x	Σ	Π	Π	Σ	∧	∨	∩	∪	"Bx
'27x	/	\	⊙	⊕	⊗	⊔	⊕	⊖	
'30x	⊔	⊗	⊕	⊖	Σ	⊖	Σ	Π	"Cx
'31x	Π	Σ	∧	∨	∩	∪	/	\	
'32x	⊙	⊕	⊗	⊔	⊕	⊖	⊔	⊗	"Dx
'33x	⊗	⊕	Σ	⊖	(	)	(	)	
'34x	⊖	⊕	⊖	⊕	⊖	⊕	⊖	⊕	"Ex
'35x	⊖	⊕	⊖	⊕	⊖	⊕	⊖	⊕	
'36x	⊖	⊕	⊖	⊕	⊖	⊕			"Fx
'37x		√	⊖						
	"8	"9	"A	"B	"C	"D	"E	"F	

stix-extra1

	'0	'1	'2	'3	'4	'5	'6	'7	
'00x	≡	≡	≈	≈	≠	≠	≠	≠	"0x
'01x	≠	≠	≈	≈	≠	≠	≠	≠	
'02x	≈	≈	≈	≈	≈	≈	≈	≈	"1x
'03x	≈	≈	≈	≈	≈	≈	≈	≈	
'04x	≠	≠	≠	≠	≠	≠	≠	≠	"2x
'05x	≠	≠	≠	≠	≠	≠	≠	≠	
'06x	∇	( )	( )				g	l	"3x
'07x	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	
'10x	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	fj	ˆ	"4x
'11x	√2	√3	≠	×	f	f <sup>T</sup>	≠	≠	
'12x	≠	≠	≠	≠	≠	≠	≠	≠	"5x
'13x	≠	≠	≠	≠	≠	≠	≠	≠	
'14x	≠	≠	≠	≠	≠	≠	○	○	"6x
'15x	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	m	P	
'16x	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	"7x
'17x	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	
'20x	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖	"8x
'21x	CTRL	RET	ESC	CMD	TAB	SPACE	DEL	ALT	
'22x	OPTION	▪	ENTER	SHIFT	MOD1	MOD2	{	}	"9x
'23x	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	
'24x	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	"Ax
'25x	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	
'26x	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	"Bx
'27x	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	
'30x	√	√	√	√	√	√	√	A	"Cx
'31x	B	E	Z	H	I	K	M	N	
'32x	O	P	Θ	T	X	o			"Dx
'33x									
	"8	"9	"A	"B	"C	"D	"E	"F	

stix-extra2

	'0	'1	'2	'3	'4	'5	'6	'7	
'04x				✓	^	≠	-	—	"2x
'05x	-	ΣΣ	ΣΣ						
'22x				ℵ		℔		ℴ	"9x
'23x		ℵ		℔		ℴ		ℴ	
'24x		∅		ℴ		ℴ		ℵ	"Ax
'25x		ℴ		ℴ		ℴ		∅	
'26x		ℴ		ℴ		ℴ		ℴ	"Bx
'27x		ℴ		ℴ		ℴ		ℴ	
'30x		∅							"Cx
'31x									
'36x									"Fx
'37x				ℴ					
	"8	"9	"A	"B	"C	"D	"E	"F	

stix-extra3

	'0	'1	'2	'3	'4	'5	'6	'7	
'00x	ℴ				ℴ				"0x
'01x	ℴ								
'04x									"2x
'05x					≠	≠	≠		
'06x		—	—						"3x
'07x									
	"8	"9	"A	"B	"C	"D	"E	"F	