STIX Two Math stylistic set substitutions

STIX Two Math version 2.00 build 137

The original STIX fonts contained a number of variant forms of math alphabetics and other symbols. These are preserved in the STIX Two Math font and accessible via OpenType Layout stylistic set substitution features. There are a limited number of such features available, so while an effort has been made to group like substitutions together, there is inevitably a 'grab-bag' feature (ss20) containing miscellaneous variants. This document illustrates the substitutions made in each stylistic set feature.

Stylistic Set 1 <ss01>

Replaces default chancery calligraphic style script uppercase characters with roundhand style.

Unicode	Default	Output
1D49C	$\mathcal{A}$	$\mathscr{A}$
212C	$\mathcal{B}$	$\mathscr{B}$
1D49E	$\mathcal{C}$	$\mathscr{C}$
1D49F	$\mathcal{D}$	$\mathscr{D}$
2130	$\mathcal{E}$	$\mathscr{E}$
2131	$\mathcal{F}$	$\mathscr{F}$
1D4A2	$\mathcal{G}$	$\mathscr{G}$
210B	$\mathcal{H}$	$\mathscr{H}$
2110	$\mathcal{I}$	$\mathscr{I}$
1D4A5	$\mathcal{J}$	$\mathscr{J}$
1D4A6	$\mathcal{K}$	$\mathscr{K}$
2112	$\mathcal{L}$	$\mathscr{L}$
2133	$\mathcal{M}$	$\mathscr{M}$
1D4A9	$\mathcal{N}$	$\mathscr{N}$
1D4AA	$\mathcal{O}$	$\mathscr{O}$
1D4AB	$\mathcal{P}$	$\mathscr{P}$
1D4AC	$\mathcal{Q}$	$\mathscr{Q}$
211B	$\mathcal{R}$	$\mathscr{R}$
1D4AE	$\mathcal{S}$	$\mathscr{S}$
1D4AF	$\mathcal{T}$	$\mathscr{T}$
1D4B0	$\mathcal{U}$	$\mathscr{U}$
1D4B1	$\mathcal{V}$	$\mathscr{V}$
1D4B2	$\mathcal{W}$	$\mathscr{W}$
1D4B3	$\mathcal{X}$	$\mathscr{X}$
1D4B4	$\mathcal{Y}$	$\mathscr{Y}$
1D4B5	$\mathcal{Z}$	$\mathscr{Z}$

Stylistic Set 2 <ss02>

Replaces small number of math italic lowercase with variant forms

Unicode	Default	Output
1D454	g	g
1D462	u	u
1D463	v	v
1D464	w	w
1D467	z	z

Stylistic Set 3 <ss03>

Replaces two characters with horizontal cross-var variants.

Unicode	Default	Output
019B	ƛ	ƛ
210F	ℏ	ℏ

Stylistic Set 4 <ss04>

Replaces default forms of prime/ minute, second, etc. signs with larger, lower variants.

Unicode	Default	Output
2032	′	′
2033	″	″
2034	‴	‴
2057	⁗	⁗
2035	‵	‵
2036	‶	‶
2037	‷	‷

Stylistic Set 5 <ss05>

Replaces default forms of some arrows with shorter variants.

Unicode	Default	Output
2190	←	←
2191	↑	↑
2192	→	→
2193	↓	↓
21D1	⇑	⇑
21D3	⇓	⇓
21E0	⇠	⇠
21E2	⇢	⇢

Stylistic Set 6 <ss06>

Replaces default forms of assorted symbols with narrower or shorter variants.

Unicode	Default	Output
2208	∈	∈
220B	∋	∋
2223	∣	∣
2224	∤	∤
2225	∥	∥
2226	∦	∦
2AEE	⫮	⫮

Stylistic Set 7 <ss07>

Replaces default forms of assorted symbols with smaller or other variant for inline use.

Unicode	Default	Output
2140	⅀	∑
2205	∅	∅
220F	∏	Π
2210	∐	Ⅱ
2211	∑	Σ
221A	√	√
221B	∛	∛
221C	∜	∜

Stylistic Set 8 <ss08>

XITS compatible substitutions of upright forms of integral signs; note that this feature also applies to size variants of these characters.

Unicode	Default	Output
222B	∫	∫
222C	∬	∬
222D	∭	∭
222E	∮	∮
222F	∯	∯
2230	∰	∰
2231	∱	∱
2232	∲	∲
2233	∳	∳
2A0B	⨋	⨋
2A0C	⨌	⨌
2A0D	⨍	⨍
2A0E	⨎	⨎
2A0F	⨏	⨏
2A10	⨐	⨐
2A11	⨑	⨑
2A12	⨒	⨒
2A13	⨓	⨓
2A14	⨔	⨔
2A15	⨕	⨕
2A16	⨖	⨖
2A17	⨗	⨗
2A18	⨘	⨘
2A19	⨙	⨙
2A1A	⨚	⨚
2A1B	⨛	⨛
2A1C	⨜	⨜

Stylistic Set 9 <ss09>

XITS compatible substitutions of vertical slash negation variants of assorted symbols.

Unicode	Default	Output
0338	◌̸	◌̷
2209	∉	∉
220C	∌	∌
2241	≁	≁
2244	≄	≄
2246	≆	≆
2247	≇	≇
2249	≉	≉
2260	≠	≠
2262	≢	≢
2268	≨	≨
2269	≩	≩
226D	≭	≭
226E	≮	≮
226F	≯	≯
2270	≰	≰
2271	≱	≱
2274	≴	≴
2275	≵	≵
2278	≸	≸
2279	≹	≹
2280	⊀	⊀
2281	⊁	⊁
2284	⊄	⊄
2285	⊅	⊅
2288	⊈	⊈
2289	⊉	⊉
22E0	⋠	⋠
22E1	⋡	⋡
22EC	⋬	⋬
22ED	⋭	⋭

Stylistic Set 10 <ss10>

Replaces default forms of greater/lesser combinations with slanted component variants.

Unicode	Default	Output
2272	≲	≲
2273	≳	≳
22DA	⋚	⋚
22DB	⋛	⋛
2A9D	⪝	⪝
2A9E	⪞	⪞
2AAC	⪬	⪬
2AAD	⪭	⪭

Stylistic Set 11 <ss11>

Replaces default forms of some negated symbols with variants with longer negation strokes.

Unicode	Default	Output
228A	⊊	⊊
228B	⊋	⊋
2ACB	⫋	⫋
2ACC	⫌	⫌

Stylistic Set 12 <ss12>

Replaces default forms of some symbols with low-modulation, 'sans serif'-like variants.

Unicode	Default	Output
221D	∝	∝
2322	⌢	⌢
2323	⌣	⌣

Stylistic Set 13 <ss13>

Replaces default form of sine wave symbol with a horizontally flipped version.

Unicode	Default	Output
223F	∿	∿

Stylistic Set 14 <ss14>

Replaces default forms of three symbols with taller versions.

Unicode	Default	Output
2216	╲	╲
2A3C	⌙	⌙
2A3D	∟	∟

Stylistic Set 15 <ss15>

Replaces default forms of four symbols with slab-serif variants.

Unicode	Default	Output
2229	∩	∩
222A	∪	∪
2293	⊓	⊓
2294	⊔	⊔

Stylistic Set 16 <ss16>

Replaces default forms of some circled operators with variants (note inconsistent sets).

Unicode	Default	Output
2295	⊕	⊕
2297	⊗	⊗
229C	⊜	⊜

Stylistic Set 20 <ss20>

Miscellaneous variant substitutions..

Unicode	Default	Output
223E	∾	∼
224C	≌	≌
2423	␣	␣
25A9	▩	▩

Notes

Stylistic Sets 17–19 are reserved for future use.

Stylistic Sets 8 and 9 are compatible with corresponding substitution features in the XITS fonts (an OpenType Math implementation of the earlier STIX fonts).

As will be clear from a perusal of the complete STIX Two Math glyph set, the variants mapped in these stylistic set features are incomplete sets of potential variants. For example: only some of the available arrow characters have short variants, and not all slashed symbols have variants with vertical bars. The present set of variants represents those included in the earlier STIX fonts, and may be extended in future to complete sets or respond to user requests.

A much larger set of horizontally mirrored forms (à la Stylistic Set 13) could be included in future versions for use in right-to-left math layout for Arabic, but mapped to features that would automate their use in RTL layout.