C Operator Dictionary (Non-Normative)

The following table gives the suggested dictionary of rendering properties for operators, fences, separators, and accents in MathML, all of which are represented by `mo` elements. For brevity, all such elements will be called simply "operators" in this Appendix.

C.1 Indexing of the operator dictionary

Note that the dictionary is indexed not just by the element content, but by the element content and `form` attribute value, together. Operators with more than one possible form have more than one entry. The MathML specification describes how the renderer chooses ("infers") which form to use when no `form` attribute is given; see Section 3.2.5.7.2 Default value of the form attribute.

Having made that choice, or with the `form` attribute explicitly specified in the <mo> element's start tag, the MathML renderer uses the remaining attributes from the dictionary entry for the appropriate single form of that operator, ignoring the entries for the other possible forms.

In the table below, all non-ASCII characters are represented by XML-style hexadecimal numeric character references. The choice of markup (character data, numeric character reference or named entity reference) for a given character in MathML has no effect on its rendering.

C.2 Format of operator dictionary entries

Each row of the table is indexed as described above by the both the character (given by code point and Unicode Name) and the value of the form attribute. The fourth column gives the **priority** which as described in Section 3.3.1 Horizontally Group Sub-Expressions <mrow>), is significant for the proper grouping of sub-expressions using <mrow>. The rule described there is especially relevant to the automatic generation of MathML by conversion from other formats for displayed mathematics, such as T_EX, which do not always specify how sub-expressions nest.

The length valued attributes such as `lspace` are given explicitly in the following columns. Boolean valued attributes such as `stretchy` are specified together in the final **Properties** column by listing the attribute name if its value should be set to **true** by the dictionary.

Any attribute not listed for some entry has its default value, which is given in parentheses in the table of attributes in Section 3.2.5 Operator, Fence, Separator or Accent <mo>.

(**(** left parenthesis **prefix** 1 0 0 fence stretchy

could be expressed as an `mo` element by:

```
<mo form="prefix" fence="true" stretchy="true" lspace="0em" rspace="0em"> ( </mo>
```

(note the whitespace added around the content for readability; Such whitespace will be ignored by a MathML system, as described in Section 2.1.7 Collapsing Whitespace in Input.

This entry means that, for MathML renderers which use this suggested operator dictionary, giving the element <mo form="prefix"> (</mo> alone, or simply <mo> (</mo> in a position for which `form="prefix"` would be inferred (see below), is equivalent to giving the element with all attributes as shown above.

In some versions of this specification, the rows of the table may be reordered by clicking on a heading in the top row, to cause the table to be ordered by that column.

C.3 Notes on `lspace` and `rspace` attributes

The values for `lspace` and `rspace` given here range from 0 to 7, they are given numerically in order to save space in the table, the values should be taken as referring to the named mathematical spaces, as follows.

Table Entry	Named Space	Default Length
0		0 em
1	veryverythinmathspace	1/18 em
2	verythinmathspace	2/18 em
3	thinmathspace	3/18 em
4	mediummathspace	4/18 em
5	thickmathspace	5/18 em
6	verythickmathspace	6/18 em
7	veryverythickmathspace	7/18 em

For the invisible operators whose content is `&InvisibleTimes;` or `&ApplyFunction;`, it is suggested that MathML renderers choose spacing in a context-sensitive way (which is an exception to the static values given in the following table). For `<mo>&ApplyFunction;</mo>`, the total spacing ("lspace"+"rspace") in expressions such as "sin *x*" (where the right operand doesn't start with a fence) should be greater than zero; for `<mo>&InvisibleTimes;</mo>`, the total spacing should be greater than zero when both operands (or the nearest tokens on either side, if on the baseline) are identifiers displayed in a non-slanted font (i.e.. under the suggested rules, when both operands are multi-character identifiers).

Some renderers may wish to use no spacing for most operators appearing in scripts (i.e. when `scriptlevel` is greater than 0; see Section 3.3.4 Style Change `<mstyle>`), as is the case in T_EX.

C.4 Operator dictionary entries

Character	Glyph	Name	form	priority	lspace	rspace	minsize	Properties
&#x2A3F;	⨿	amalgamation or coproduct	infix	1	4	4		
&#x27E8;	⟨	mathematical left angle bracket	prefix	2	0	0		fence stretchy symmetric
&#x2500;	─	box drawings light horizontal	infix	4	0	0	0	stretchy
&#x2758;	❘	light vertical bar	infix	7	4	4		fence stretchy symmetric
->	->	multiple character operator: ->	infix	8	4	4		
//	//	multiple character operator: //	infix	8	4	4		
;	;	semicolon	infix	10	0	3		separator
||	||	multiple character operator: ||	infix	10	3	3		
&&	&&	multiple character operator: &&	infix	12	4	4		
**	**	multiple character operator: **	infix	12	1	1		
<=	<=	multiple character operator: <=	infix	12	4	4		
<>	<>	multiple character operator: <>	infix	12	1	1		
&#x2018;	‘	left single quotation mark	prefix	12	0	0		fence
&#x201C;	“	left double quotation mark	prefix	12	0	0		fence
⊏̸	⊏̸	square image of with slash	infix	15	4	4		
⊐̸	⊐̸	square original of with slash	infix	15	4	4		

≂̸	≂̸	minus tilde with slash	infix	16	4	4	
≎̸	≎̸	geometrically equivalent to with slash	infix	16	4	4	
≏̸	≏̸	difference between with slash	infix	16	4	4	
≦̸	≦̸	less-than over equal to with slash	infix	16	4	4	
≪̸	≪̸	much less than with slash	infix	16	4	4	
≫̸	≫̸	much greater than with slash	infix	16	4	4	
≿̸	≿̸	succeeds or equivalent to with slash	infix	16	4	4	
⊂⃒	⊂⃒	subset of with vertical line	infix	16	4	4	
⊃⃒	⊃⃒	superset of with vertical line	infix	16	4	4	
&#x27E6;	⟦	mathematical left white square bracket	prefix	16	0	0	fence stretchy symmetric
&#x27F5;	⟵	long leftwards arrow	infix	16	1	1	stretchy
&#x27F6;	⟶	long rightwards arrow	infix	16	1	1	stretchy
&#x27F7;	⟷	long left right arrow	infix	16	1	1	stretchy
&#x27F8;	⟸	long leftwards double arrow	infix	16	1	1	stretchy
&#x27F9;	⟹	long rightwards double arrow	infix	16	1	1	stretchy
&#x27FA;	⟺	long left right double arrow	infix	16	1	1	stretchy
⧏̸	⧏̸	left triangle beside vertical bar with slash	infix	16	4	4	
⧐̸	⧐̸	vertical bar beside right triangle with slash	infix	16	4	4	
⩽̸	⩽̸	less-than or slanted equal to with slash	infix	16	4	4	
⩾̸	⩾̸	greater-than or slanted equal to with slash	infix	16	4	4	
⪡̸	⪡̸	double nested less-than with slash	infix	16	4	4	
⪢̸	⪢̸	double nested greater-than with slash	infix	16	4	4	
⪯̸	⪯̸	precedes above single-line equals sign with slash	infix	16	4	4	
⪰̸	⪰̸	succeeds above single-line equals sign with slash	infix	16	4	4	
>=	>=	multiple character operator: >=	infix	17	4	4	
@	@	commercial at	infix	25	1	1	
?	?	question mark	infix	28	1	1	
_	_	low line	infix	29	1	1	
,	,	comma	infix	30	0	3	separator
&#x2063;	⁣	invisible separator	infix	30	0	0	separator
&#x2234;	∴	therefore	infix	70	5	5	
&#x2235;	∵	because	infix	70	5	5	
..	..	multiple character operator: ..	postfix	100	0	0	
...	...	multiple character operator: ...	postfix	100	0	0	
:	:	colon	infix	100	1	2	
&#x2026;	…	horizontal ellipsis	infix	150	0	0	
&#x22EE;	⋮	vertical ellipsis	infix	150	5	5	
&#x22EF;	⋯	midline horizontal ellipsis	infix	150	0	0	
&#x22F1;	⋱	down right diagonal ellipsis	infix	150	5	5	
&#x220B;	∋	contains as member	infix	160	5	5	
&#x22A2;	⊢	right tack	infix	170	5	5	
&#x22A3;	⊣	left tack	infix	170	5	5	
&#x22A4;	⊤	down tack	infix	170	5	5	
&#x22A8;	⊨	true	infix	170	5	5	

&#x22A9;	⊩	forces	infix	170	5	5	
&#x22AC;	⊬	does not prove	infix	170	5	5	
&#x22AD;	⊭	not true	infix	170	5	5	
&#x22AE;	⊮	does not force	infix	170	5	5	
&#x22AF;	⊯	negated double vertical bar double right turnstile	infix	170	5	5	
&#x2228;	∨	logical or	infix	190	4	4	
&#x2019;	’	right single quotation mark	postfix	200	0	0	fence
&#x201D;	”	right double quotation mark	postfix	200	0	0	fence
&#x2227;	∧	logical and	infix	200	4	4	
&#x2200;	∀	for all	prefix	230	2	1	
&#x2203;	∃	there exists	prefix	230	2	1	
&#x2204;	∄	there does not exist	prefix	230	2	1	
&#x2201;	∁	complement	infix	240	1	2	
&#x2208;	∈	element of	infix	240	5	5	
&#x2209;	∉	not an element of	infix	240	5	5	
&#x220C;	∌	does not contain as member	infix	240	5	5	
&#x2282;	⊂	subset of	infix	240	5	5	
&#x2283;	⊃	superset of	infix	240	5	5	
&#x2284;	⊄	not a subset of	infix	240	5	5	
&#x2285;	⊅	not a superset of	infix	240	5	5	
&#x2286;	⊆	subset of or equal to	infix	240	5	5	
&#x2287;	⊇	superset of or equal to	infix	240	5	5	
&#x2288;	⊈	neither a subset of nor equal to	infix	240	5	5	
&#x2289;	⊉	neither a superset of nor equal to	infix	240	5	5	
&#x228A;	⊊	subset of with not equal to	infix	240	5	5	
&#x228B;	⊋	superset of with not equal to	infix	240	5	5	
&#x2264;	≤	less-than or equal to	infix	241	5	5	
&#x2265;	≥	greater-than or equal to	infix	242	5	5	
>	>	greater-than sign	infix	243	5	5	
&#x226F;	≯	not greater-than	infix	244	5	5	
&lt;	<	less-than sign	infix	245	5	5	
&#x226E;	≮	not less-than	infix	246	5	5	
&#x2248;	≈	almost equal to	infix	247	5	5	
&#x223C;	∼	tilde operator	infix	250	5	5	
&#x2249;	≉	not almost equal to	infix	250	5	5	
&#x2262;	≢	not identical to	infix	252	5	5	
&#x2260;	≠	not equal to	infix	255	5	5	
!=	!=	multiple character operator: !=	infix	260	4	4	
*=	*=	multiple character operator: *=	infix	260	4	4	
+=	+=	multiple character operator: +=	infix	260	4	4	
-=	-=	multiple character operator: -=	infix	260	4	4	
/=	/=	multiple character operator: /=	infix	260	4	4	
:=	:=	multiple character operator: :=	infix	260	4	4	
=	=	equals sign	infix	260	5	5	
==	==	multiple character operator: ==	infix	260	4	4	
&#x221D;	∝	proportional to	infix	260	5	5	
&#x2224;	∤	does not divide	infix	260	5	5	
&#x2225;	∥	parallel to	infix	260	5	5	
&#x2226;	∦	not parallel to	infix	260	5	5	
&#x2241;	≁	not tilde	infix	260	5	5	

&#x2243;	≃	asymptotically equal to	infix	260	5	5
&#x2244;	≄	not asymptotically equal to	infix	260	5	5
&#x2245;	≅	approximately equal to	infix	260	5	5
&#x2246;	≆	approximately but not actually equal to	infix	260	5	5
&#x2247;	≇	neither approximately nor actually equal to	infix	260	5	5
&#x224D;	≍	equivalent to	infix	260	5	5
&#x2254;	≔	colon equals	infix	260	5	5
&#x2257;	≗	ring equal to	infix	260	5	5
&#x2259;	≙	estimates	infix	260	5	5
&#x225A;	≚	equiangular to	infix	260	5	5
&#x225C;	≜	delta equal to	infix	260	5	5
&#x225F;	≟	questioned equal to	infix	260	5	5
&#x2261;	≡	identical to	infix	260	5	5
&#x2268;	≨	less-than but not equal to	infix	260	5	5
&#x2269;	≩	greater-than but not equal to	infix	260	5	5
&#x226A;	≪	much less-than	infix	260	5	5
&#x226B;	≫	much greater-than	infix	260	5	5
&#x226D;	≭	not equivalent to	infix	260	5	5
&#x2270;	≰	neither less-than nor equal to	infix	260	5	5
&#x2271;	≱	neither greater-than nor equal to	infix	260	5	5
&#x227A;	≺	precedes	infix	260	5	5
&#x227B;	≻	succeeds	infix	260	5	5
&#x227C;	≼	precedes or equal to	infix	260	5	5
&#x227D;	≽	succeeds or equal to	infix	260	5	5
&#x2280;	⊀	does not precede	infix	260	5	5
&#x2281;	⊁	does not succeed	infix	260	5	5
&#x22A5;	⊥	up tack	infix	260	5	5
&#x22B4;	⊴	normal subgroup of or equal to	infix	260	5	5
&#x22B5;	⊵	contains as normal subgroup or equal to	infix	260	5	5
&#x22C9;	⋉	left normal factor semidirect product	infix	260	4	4
&#x22CA;	⋊	right normal factor semidirect product	infix	260	4	4
&#x22CB;	⋋	left semidirect product	infix	260	4	4
&#x22CC;	⋌	right semidirect product	infix	260	4	4
&#x22D4;	⋔	pitchfork	infix	260	5	5
&#x22D6;	⋖	less-than with dot	infix	260	5	5
&#x22D7;	⋗	greater-than with dot	infix	260	5	5
&#x22D8;	⋘	very much less-than	infix	260	5	5
&#x22D9;	⋙	very much greater-than	infix	260	5	5
&#x22EA;	⋪	not normal subgroup of	infix	260	5	5
&#x22EB;	⋫	does not contain as normal subgroup	infix	260	5	5
&#x22EC;	⋬	not normal subgroup of or equal to	infix	260	5	5
&#x22ED;	⋭	does not contain as normal subgroup or equal	infix	260	5	5
&#x25A0;	■	black square	infix	260	3	3
&#x25A1;	□	white square	infix	260	3	3
&#x25AA;	▪	black small square	infix	260	3	3
&#x25AB;	▫	white small square	infix	260	3	3
&#x25AD;	▭	white rectangle	infix	260	3	3
&#x25AE;	▮	black vertical rectangle	infix	260	3	3
&#x25AF;	▯	white vertical rectangle	infix	260	3	3

&#x25B0;	▰	black parallelogram	infix	260	3	3	
&#x25B1;	▱	white parallelogram	infix	260	3	3	
&#x25B3;	△	white up-pointing triangle	infix	260	4	4	
&#x25B4;	▲	black up-pointing small triangle	infix	260	4	4	
&#x25B5;	△	white up-pointing small triangle	infix	260	4	4	
&#x25B6;	▶	black right-pointing triangle	infix	260	4	4	
&#x25B7;	▷	white right-pointing triangle	infix	260	4	4	
&#x25B8;	▸	black right-pointing small triangle	infix	260	4	4	
&#x25B9;	▹	white right-pointing small triangle	infix	260	4	4	
&#x25BC;	▼	black down-pointing triangle	infix	260	4	4	
&#x25BD;	▽	white down-pointing triangle	infix	260	4	4	
&#x25BE;	▾	black down-pointing small triangle	infix	260	4	4	
&#x25BF;	▿	white down-pointing small triangle	infix	260	4	4	
&#x25C0;	◀	black left-pointing triangle	infix	260	4	4	
&#x25C1;	◁	white left-pointing triangle	infix	260	4	4	
&#x25C2;	◂	black left-pointing small triangle	infix	260	4	4	
&#x25C3;	◁	white left-pointing small triangle	infix	260	4	4	
&#x25C4;	◀	black left-pointing pointer	infix	260	4	4	
&#x25C5;	◅	white left-pointing pointer	infix	260	4	4	
&#x25C6;	◆	black diamond	infix	260	4	4	
&#x25C7;	◇	white diamond	infix	260	4	4	
&#x25C8;	◈	white diamond containing black small diamond	infix	260	4	4	
&#x25C9;	◉	fisheye	infix	260	4	4	
&#x25CC;	◌	dotted circle	infix	260	4	4	
&#x25CD;	◍	circle with vertical fill	infix	260	4	4	
&#x25CE;	◎	bullseye	infix	260	4	4	
&#x25CF;	●	black circle	infix	260	4	4	
&#x25D6;	◖	left half black circle	infix	260	4	4	
&#x25D7;	◗	right half black circle	infix	260	4	4	
&#x25E6;	◦	white bullet	infix	260	4	4	
&#x29C0;	⧀	circled less-than	infix	260	5	5	
&#x29C1;	⧁	circled greater-than	infix	260	5	5	
&#x29E3;	⧣	equals sign and slanted parallel	infix	260	5	5	
&#x29E4;	⧤	equals sign and slanted parallel with tilde above	infix	260	5	5	
&#x29E5;	⧥	identical to and slanted parallel	infix	260	5	5	
&#x29E6;	⧦	gleich stark	infix	260	5	5	
&#x29F3;	⧳	error-barred black circle	infix	260	3	3	
&#x2A87;	⪇	less-than and single-line not equal to	infix	260	5	5	
&#x2A88;	⪈	greater-than and single-line not equal to	infix	260	5	5	
&#x2AAF;	⪯	precedes above single-line equals sign	infix	260	5	5	
&#x2AB0;	⪰	succeeds above single-line equals sign	infix	260	5	5	
&#x2044;	⁄	fraction slash	infix	265	4	4	stretchy
&#x2206;	∆	increment	infix	265	3	3	
&#x220A;	∊	small element of	infix	265	5	5	
&#x220D;	∍	small contains as member	infix	265	5	5	
&#x220E;	∎	end of proof	infix	265	3	3	

&#x2215;	∕	division slash	infix	265	4	4	stretchy
&#x2217;	∗	asterisk operator	infix	265	4	4	
&#x2219;	∙	bullet operator	infix	265	4	4	
&#x221F;	∟	right angle	infix	265	5	5	
&#x2223;	∣	divides	infix	265	5	5	
&#x2236;	∶	ratio	infix	265	5	5	
&#x2237;	∷	proportion	infix	265	5	5	
&#x2238;	∸	dot minus	infix	265	4	4	
&#x2239;	∹	excess	infix	265	5	5	
&#x223A;	∺	geometric proportion	infix	265	4	4	
&#x223B;	∻	homothetic	infix	265	5	5	
&#x223D;	∽	reversed tilde	infix	265	5	5	
∽̱	∽̱	reversed tilde with underline	infix	265	3	3	
&#x223E;	∾	inverted lazy s	infix	265	5	5	
&#x223F;	∿	sine wave	infix	265	3	3	
&#x2242;	≂	minus tilde	infix	265	5	5	
&#x224A;	≊	almost equal or equal to	infix	265	5	5	
&#x224B;	≋	triple tilde	infix	265	5	5	
&#x224C;	≌	all equal to	infix	265	5	5	
&#x224E;	≎	geometrically equivalent to	infix	265	5	5	
&#x224F;	≏	difference between	infix	265	5	5	
&#x2250;	≐	approaches the limit	infix	265	5	5	
&#x2251;	≑	geometrically equal to	infix	265	5	5	
&#x2252;	≒	approximately equal to or the image of	infix	265	5	5	
&#x2253;	≓	image of or approximately equal to	infix	265	5	5	
&#x2255;	≕	equals colon	infix	265	5	5	
&#x2256;	≖	ring in equal to	infix	265	5	5	
&#x2258;	≘	corresponds to	infix	265	5	5	
&#x225D;	≝	equal to by definition	infix	265	5	5	
&#x225E;	≞	measured by	infix	265	5	5	
&#x2263;	≣	strictly equivalent to	infix	265	5	5	
&#x2266;	≦	less-than over equal to	infix	265	5	5	
&#x2267;	≧	greater-than over equal to	infix	265	5	5	
&#x226C;	≬	between	infix	265	5	5	
&#x2272;	≲	less-than or equivalent to	infix	265	5	5	
&#x2273;	≳	greater-than or equivalent to	infix	265	5	5	
&#x2274;	≴	neither less-than nor equivalent to	infix	265	5	5	
&#x2275;	≵	neither greater-than nor equivalent to	infix	265	5	5	
&#x2276;	≶	less-than or greater-than	infix	265	5	5	
&#x2277;	≷	greater-than or less-than	infix	265	5	5	
&#x2278;	≸	neither less-than nor greater-than	infix	265	5	5	
&#x2279;	≹	neither greater-than nor less-than	infix	265	5	5	
&#x227E;	≾	precedes or equivalent to	infix	265	5	5	
&#x227F;	≿	succeeds or equivalent to	infix	265	5	5	
&#x228C;	⊌	multiset	infix	265	4	4	
&#x228D;	⊍	multiset multiplication	infix	265	4	4	
&#x228E;	⊎	multiset union	infix	265	4	4	
&#x228F;	⊏	square image of	infix	265	5	5	
&#x2290;	⊐	square original of	infix	265	5	5	
&#x2291;	⊑	square image of or equal to	infix	265	5	5	

&#x2292;	⊒	square original of or equal to	infix	265	5	5
&#x2293;	⊓	square cap	infix	265	4	4
&#x2294;	⊔	square cup	infix	265	4	4
&#x229A;	⊚	circled ring operator	infix	265	4	4
&#x229B;	⊛	circled asterisk operator	infix	265	4	4
&#x229C;	⊜	circled equals	infix	265	4	4
&#x229D;	⊝	circled dash	infix	265	4	4
&#x22A6;	⊦	assertion	infix	265	5	5
&#x22A7;	⊧	models	infix	265	5	5
&#x22AA;	⊪	triple vertical bar right turnstile	infix	265	5	5
&#x22AB;	⊫	double vertical bar double right turnstile	infix	265	5	5
&#x22B0;	⊰	precedes under relation	infix	265	5	5
&#x22B1;	⊱	succeeds under relation	infix	265	5	5
&#x22B2;	⊲	normal subgroup of	infix	265	5	5
&#x22B3;	⊳	contains as normal subgroup	infix	265	5	5
&#x22B6;	⊶	original of	infix	265	5	5
&#x22B7;	⊷	image of	infix	265	5	5
&#x22B9;	⊹	hermitian conjugate matrix	infix	265	5	5
&#x22BA;	⊺	intercalate	infix	265	4	4
&#x22BB;	⊻	xor	infix	265	4	4
&#x22BC;	⊼	nand	infix	265	4	4
&#x22BD;	⊽	nor	infix	265	4	4
&#x22BE;	⊾	right angle with arc	infix	265	3	3
&#x22BF;	⊿	right triangle	infix	265	3	3
&#x22C4;	⋄	diamond operator	infix	265	4	4
&#x22C6;	⋆	star operator	infix	265	4	4
&#x22C7;	⋇	division times	infix	265	4	4
&#x22C8;	⋈	bowtie	infix	265	5	5
&#x22CD;	⋍	reversed tilde equals	infix	265	5	5
&#x22CE;	⋎	curly logical or	infix	265	4	4
&#x22CF;	⋏	curly logical and	infix	265	4	4
&#x22D0;	⋐	double subset	infix	265	5	5
&#x22D1;	⋑	double superset	infix	265	5	5
&#x22D2;	⋒	double intersection	infix	265	4	4
&#x22D3;	⋓	double union	infix	265	4	4
&#x22D5;	⋕	equal and parallel to	infix	265	5	5
&#x22DA;	⋚	less-than equal to or greater-than	infix	265	5	5
&#x22DB;	⋛	greater-than equal to or less-than	infix	265	5	5
&#x22DC;	⋜	equal to or less-than	infix	265	5	5
&#x22DD;	⋝	equal to or greater-than	infix	265	5	5
&#x22DE;	⋞	equal to or precedes	infix	265	5	5
&#x22DF;	⋟	equal to or succeeds	infix	265	5	5
&#x22E0;	⋠	does not precede or equal	infix	265	5	5
&#x22E1;	⋡	does not succeed or equal	infix	265	5	5
&#x22E2;	⋢	not square image of or equal to	infix	265	5	5
&#x22E3;	⋣	not square original of or equal to	infix	265	5	5
&#x22E4;	⋤	square image of or not equal to	infix	265	5	5
&#x22E5;	⋥	square original of or not equal to	infix	265	5	5
&#x22E6;	⋦	less-than but not equivalent to	infix	265	5	5
&#x22E7;	⋧	greater-than but not equivalent to	infix	265	5	5

&#x22E8;	⋨	precedes but not equivalent to	infix	265	5	5	
&#x22E9;	⋩	succeeds but not equivalent to	infix	265	5	5	
&#x22F0;	⋰	up right diagonal ellipsis	infix	265	5	5	
&#x22F2;	⋲	element of with long horizontal stroke	infix	265	5	5	
&#x22F3;	⋳	element of with vertical bar at end of horizontal stroke	infix	265	5	5	
&#x22F4;	⋴	small element of with vertical bar at end of horizontal stroke	infix	265	5	5	
&#x22F5;	⋵	element of with dot above	infix	265	5	5	
&#x22F6;	⋶	element of with overbar	infix	265	5	5	
&#x22F7;	⋷	small element of with overbar	infix	265	5	5	
&#x22F8;	⋸	element of with underbar	infix	265	5	5	
&#x22F9;	⋹	element of with two horizontal strokes	infix	265	5	5	
&#x22FA;	⋺	contains with long horizontal stroke	infix	265	5	5	
&#x22FB;	⋻	contains with vertical bar at end of horizontal stroke	infix	265	5	5	
&#x22FC;	⋼	small contains with vertical bar at end of horizontal stroke	infix	265	5	5	
&#x22FD;	⋽	contains with overbar	infix	265	5	5	
&#x22FE;	⋾	small contains with overbar	infix	265	5	5	
&#x22FF;	E	z notation bag membership	infix	265	5	5	
&#x25B2;	▲	black up-pointing triangle	infix	265	4	4	
&#x2981;	•	z notation spot	infix	265	3	3	
&#x2982;	⦂	z notation type colon	infix	265	3	3	
&#x2991;	⦑	left angle bracket with dot	prefix	265	0	0	fence stretchy symmetric
&#x2992;	⦒	right angle bracket with dot	postfix	265	0	0	fence stretchy symmetric
&#x2993;	⦓	left arc less-than bracket	prefix	265	0	0	fence stretchy symmetric
&#x2994;	⦔	right arc greater-than bracket	postfix	265	0	0	fence stretchy symmetric
&#x2995;	⦕	double left arc greater-than bracket	prefix	265	0	0	fence stretchy symmetric
&#x2996;	⦖	double right arc less-than bracket	postfix	265	0	0	fence stretchy symmetric
&#x29A0;	⦠	spherical angle opening left	infix	265	3	3	
&#x29A1;	⦡	spherical angle opening up	infix	265	3	3	
&#x29A2;	⦢	turned angle	infix	265	3	3	
&#x29A3;	⦣	reversed angle	infix	265	3	3	
&#x29A4;	⦤	angle with underbar	infix	265	3	3	
&#x29A5;	⦥	reversed angle with underbar	infix	265	3	3	
&#x29A6;	⦦	oblique angle opening up	infix	265	3	3	
&#x29A7;	⦧	oblique angle opening down	infix	265	3	3	
&#x29A8;	⦨	measured angle with open arm ending in arrow pointing up and right	infix	265	3	3	
&#x29A9;	⦩	measured angle with open arm ending in	infix	265	3	3	

⦩		arrow pointing up and left	infix	265	3	3
⦪		measured angle with open arm ending in arrow pointing down and right	infix	265	3	3
⦫		measured angle with open arm ending in arrow pointing down and left	infix	265	3	3
⦬		measured angle with open arm ending in arrow pointing right and up	infix	265	3	3
⦭		measured angle with open arm ending in arrow pointing left and up	infix	265	3	3
⦮		measured angle with open arm ending in arrow pointing right and down	infix	265	3	3
⦯		measured angle with open arm ending in arrow pointing left and down	infix	265	3	3
⦰		reversed empty set	infix	265	3	3
⦱		empty set with overbar	infix	265	3	3
⦲		empty set with small circle above	infix	265	3	3
⦳		empty set with right arrow above	infix	265	3	3
⦴		empty set with left arrow above	infix	265	3	3
⦵		circle with horizontal bar	infix	265	3	3
⦶		circled vertical bar	infix	265	4	4
⦷		circled parallel	infix	265	4	4
⦸		circled reverse solidus	infix	265	4	4
⦹		circled perpendicular	infix	265	4	4
⦺		circle divided by horizontal bar and top half divided by vertical bar	infix	265	4	4
⦻		circle with superimposed x	infix	265	4	4
⦼		circled anticlockwise-rotated division sign	infix	265	4	4
⦽		up arrow through circle	infix	265	4	4
⦾		circled white bullet	infix	265	4	4
⦿		circled bullet	infix	265	4	4
⧂		circle with small circle to the right	infix	265	3	3
⧃		circle with two horizontal strokes to the right	infix	265	3	3
⧄		squared rising diagonal slash	infix	265	4	4
⧅		squared falling diagonal slash	infix	265	4	4
⧆		squared asterisk	infix	265	4	4
⧇		squared small circle	infix	265	4	4
⧈		squared square	infix	265	4	4
⧉		two joined squares	infix	265	3	3
⧊		triangle with dot above	infix	265	3	3
⧋		triangle with underbar	infix	265	3	3
⧌		s in triangle	infix	265	3	3
⧍		triangle with serifs at bottom	infix	265	3	3
⧎		right triangle above left triangle	infix	265	5	5
⧏		left triangle beside vertical bar	infix	265	5	5
⧐		vertical bar beside right triangle	infix	265	5	5
⧑		bowtie with left half black	infix	265	5	5
⧒		bowtie with right half black	infix	265	5	5
⧓		black bowtie	infix	265	5	5

&#x29D4;	⧔	times with left half black	infix	265	5	5
&#x29D5;	⧕	times with right half black	infix	265	5	5
&#x29D6;	⧖	white hourglass	infix	265	4	4
&#x29D7;	⧗	black hourglass	infix	265	4	4
&#x29D8;	⧘	left wiggly fence	infix	265	3	3
&#x29D9;	⧙	right wiggly fence	infix	265	3	3
&#x29DB;	⧛	right double wiggly fence	infix	265	3	3
&#x29DC;	⧜	incomplete infinity	infix	265	3	3
&#x29DD;	⧝	tie over infinity	infix	265	3	3
&#x29DE;	⧞	infinity negated with vertical bar	infix	265	5	5
&#x29E0;	⧠	square with contoured outline	infix	265	3	3
&#x29E1;	⧡	increases as	infix	265	5	5
&#x29E2;	⧢	shuffle product	infix	265	4	4
&#x29E7;	⧧	thermodynamic	infix	265	3	3
&#x29E8;	⧨	down-pointing triangle with left half black	infix	265	3	3
&#x29E9;	⧩	down-pointing triangle with right half black	infix	265	3	3
&#x29EA;	⧪	black diamond with down arrow	infix	265	3	3
&#x29EB;	⧫	black lozenge	infix	265	3	3
&#x29EC;	⧬	white circle with down arrow	infix	265	3	3
&#x29ED;	⧭	black circle with down arrow	infix	265	3	3
&#x29EE;	⧮	error-barred white square	infix	265	3	3
&#x29F0;	⧰	error-barred white diamond	infix	265	3	3
&#x29F1;	⧱	error-barred black diamond	infix	265	3	3
&#x29F2;	⧲	error-barred white circle	infix	265	3	3
&#x29F5;	⧵	reverse solidus operator	infix	265	4	4
&#x29F6;	⧶	solidus with overbar	infix	265	4	4
&#x29F7;	⧷	reverse solidus with horizontal stroke	infix	265	4	4
&#x29F8;	⧸	big solidus	infix	265	3	3
&#x29F9;	⧹	big reverse solidus	infix	265	3	3
&#x29FA;	⧺	double plus	infix	265	3	3
&#x29FB;	⧻	triple plus	infix	265	3	3
&#x29FE;	⧾	tiny	infix	265	4	4
&#x29FF;	⧿	miny	infix	265	4	4
&#x2A1D;	⨝	join	infix	265	3	3
&#x2A1E;	⨞	large left triangle operator	infix	265	3	3
&#x2A1F;	⨟	z notation schema composition	infix	265	3	3
&#x2A20;	⨠	z notation schema piping	infix	265	3	3
&#x2A21;	⨡	z notation schema projection	infix	265	3	3
&#x2A22;	⨢	plus sign with small circle above	infix	265	4	4
&#x2A23;	⨣	plus sign with circumflex accent above	infix	265	4	4
&#x2A24;	⨤	plus sign with tilde above	infix	265	4	4
&#x2A25;	⨥	plus sign with dot below	infix	265	4	4
&#x2A26;	⨦	plus sign with tilde below	infix	265	4	4
&#x2A27;	⨧	plus sign with subscript two	infix	265	4	4
&#x2A28;	⨨	plus sign with black triangle	infix	265	4	4
&#x2A29;	⨩	minus sign with comma above	infix	265	4	4
&#x2A2A;	⨪	minus sign with dot below	infix	265	4	4
&#x2A2B;	⨫	minus sign with falling dots	infix	265	4	4

&#x2A2C;		minus sign with rising dots	infix	265	4	4
&#x2A2D;		plus sign in left half circle	infix	265	4	4
&#x2A2E;		plus sign in right half circle	infix	265	4	4
&#x2A30;		multiplication sign with dot above	infix	265	4	4
&#x2A31;		multiplication sign with underbar	infix	265	4	4
&#x2A32;		semidirect product with bottom closed	infix	265	4	4
&#x2A33;		smash product	infix	265	4	4
&#x2A34;		multiplication sign in left half circle	infix	265	4	4
&#x2A35;		multiplication sign in right half circle	infix	265	4	4
&#x2A36;		circled multiplication sign with circumflex accent	infix	265	4	4
&#x2A37;		multiplication sign in double circle	infix	265	4	4
&#x2A38;		circled division sign	infix	265	4	4
&#x2A39;		plus sign in triangle	infix	265	4	4
&#x2A3A;		minus sign in triangle	infix	265	4	4
&#x2A3B;		multiplication sign in triangle	infix	265	4	4
&#x2A3C;		interior product	infix	265	4	4
&#x2A3D;		righthand interior product	infix	265	4	4
&#x2A3E;		z notation relational composition	infix	265	4	4
&#x2A40;		intersection with dot	infix	265	4	4
&#x2A41;		union with minus sign	infix	265	4	4
&#x2A42;		union with overbar	infix	265	4	4
&#x2A43;		intersection with overbar	infix	265	4	4
&#x2A44;		intersection with logical and	infix	265	4	4
&#x2A45;		union with logical or	infix	265	4	4
&#x2A46;		union above intersection	infix	265	4	4
&#x2A47;		intersection above union	infix	265	4	4
&#x2A48;		union above bar above intersection	infix	265	4	4
&#x2A49;		intersection above bar above union	infix	265	4	4
&#x2A4A;		union beside and joined with union	infix	265	4	4
&#x2A4B;		intersection beside and joined with intersection	infix	265	4	4
&#x2A4C;		closed union with serifs	infix	265	4	4
&#x2A4D;		closed intersection with serifs	infix	265	4	4
&#x2A4E;		double square intersection	infix	265	4	4
&#x2A4F;		double square union	infix	265	4	4
&#x2A50;		closed union with serifs and smash product	infix	265	4	4
&#x2A51;		logical and with dot above	infix	265	4	4
&#x2A52;		logical or with dot above	infix	265	4	4
&#x2A53;		double logical and	infix	265	4	4
&#x2A54;		double logical or	infix	265	4	4
&#x2A55;		two intersecting logical and	infix	265	4	4
&#x2A56;		two intersecting logical or	infix	265	4	4
&#x2A57;		sloping large or	infix	265	4	4
&#x2A58;		sloping large and	infix	265	4	4
&#x2A59;		logical or overlapping logical and	infix	265	5	5
&#x2A5A;		logical and with middle stem	infix	265	4	4
&#x2A5B;		logical or with middle stem	infix	265	4	4
&#x2A5C;		logical and with horizontal dash	infix	265	4	4

&#x2A5D;	⩝	logical or with horizontal dash	infix	265	4	4
&#x2A5E;	⩞	logical and with double overbar	infix	265	4	4
&#x2A5F;	⩟	logical and with underbar	infix	265	4	4
&#x2A60;	⩠	logical and with double underbar	infix	265	4	4
&#x2A61;	⩡	small vee with underbar	infix	265	4	4
&#x2A62;	⩢	logical or with double overbar	infix	265	4	4
&#x2A63;	⩣	logical or with double underbar	infix	265	4	4
&#x2A64;	⩤	z notation domain antirestriction	infix	265	4	4
&#x2A65;	⩥	z notation range antirestriction	infix	265	4	4
&#x2A66;	⩦	equals sign with dot below	infix	265	5	5
&#x2A67;	⩧	identical with dot above	infix	265	5	5
&#x2A68;	⩨	triple horizontal bar with double vertical stroke	infix	265	5	5
&#x2A69;	⩩	triple horizontal bar with triple vertical stroke	infix	265	5	5
&#x2A6A;	⩪	tilde operator with dot above	infix	265	5	5
&#x2A6B;	⩫	tilde operator with rising dots	infix	265	5	5
&#x2A6C;	⩬	similar minus similar	infix	265	5	5
&#x2A6D;	⩭	congruent with dot above	infix	265	5	5
&#x2A6E;	⩮	equals with asterisk	infix	265	5	5
&#x2A6F;	⩯	almost equal to with circumflex accent	infix	265	5	5
&#x2A70;	⩰	approximately equal or equal to	infix	265	5	5
&#x2A71;	⩱	equals sign above plus sign	infix	265	4	4
&#x2A72;	⩲	plus sign above equals sign	infix	265	4	4
&#x2A73;	⩳	equals sign above tilde operator	infix	265	5	5
&#x2A74;	⩴	double colon equal	infix	265	5	5
&#x2A75;	⩵	two consecutive equals signs	infix	265	5	5
&#x2A76;	⩶	three consecutive equals signs	infix	265	5	5
&#x2A77;	⩷	equals sign with two dots above and two dots below	infix	265	5	5
&#x2A78;	⩸	equivalent with four dots above	infix	265	5	5
&#x2A79;	⩹	less-than with circle inside	infix	265	5	5
&#x2A7A;	⩺	greater-than with circle inside	infix	265	5	5
&#x2A7B;	⩻	less-than with question mark above	infix	265	5	5
&#x2A7C;	⩼	greater-than with question mark above	infix	265	5	5
&#x2A7D;	⩽	less-than or slanted equal to	infix	265	5	5
&#x2A7E;	⩾	greater-than or slanted equal to	infix	265	5	5
&#x2A7F;	⩿	less-than or slanted equal to with dot inside	infix	265	5	5
&#x2A80;	⪀	greater-than or slanted equal to with dot inside	infix	265	5	5
&#x2A81;	⪁	less-than or slanted equal to with dot above	infix	265	5	5
&#x2A82;	⪂	greater-than or slanted equal to with dot above	infix	265	5	5
&#x2A83;	⪃	less-than or slanted equal to with dot above right	infix	265	5	5
&#x2A84;	⪄	greater-than or slanted equal to with dot above left	infix	265	5	5
&#x2A85;	⪅	less-than or approximate	infix	265	5	5
&#x2A86;	⪆	greater-than or approximate	infix	265	5	5
&#x2A89;	⪉	less-than and not approximate	infix	265	5	5
&#x2A8A;	⪊	greater-than and not approximate	infix	265	5	5

&#x2A8B;	⪋	less-than above double-line equal above greater-than	infix	265	5	5
&#x2A8C;	⪌	greater-than above double-line equal above less-than	infix	265	5	5
&#x2A8D;	⪍	less-than above similar or equal	infix	265	5	5
&#x2A8E;	⪎	greater-than above similar or equal	infix	265	5	5
&#x2A8F;	⪏	less-than above similar above greater-than	infix	265	5	5
&#x2A90;	⪐	greater-than above similar above less-than	infix	265	5	5
&#x2A91;	⪑	less-than above greater-than above double-line equal	infix	265	5	5
&#x2A92;	⪒	greater-than above less-than above double-line equal	infix	265	5	5
&#x2A93;	⪓	less-than above slanted equal above greater-than above slanted equal	infix	265	5	5
&#x2A94;	⪔	greater-than above slanted equal above less-than above slanted equal	infix	265	5	5
&#x2A95;	⪕	slanted equal to or less-than	infix	265	5	5
&#x2A96;	⪖	slanted equal to or greater-than	infix	265	5	5
&#x2A97;	⪗	slanted equal to or less-than with dot inside	infix	265	5	5
&#x2A98;	⪘	slanted equal to or greater-than with dot inside	infix	265	5	5
&#x2A99;	⪙	double-line equal to or less-than	infix	265	5	5
&#x2A9A;	⪚	double-line equal to or greater-than	infix	265	5	5
&#x2A9B;	⪛	double-line slanted equal to or less-than	infix	265	5	5
&#x2A9C;	⪜	double-line slanted equal to or greater-than	infix	265	5	5
&#x2A9D;	⪝	similar or less-than	infix	265	5	5
&#x2A9E;	⪞	similar or greater-than	infix	265	5	5
&#x2A9F;	⪟	similar above less-than above equals sign	infix	265	5	5
&#x2AA0;	⪠	similar above greater-than above equals sign	infix	265	5	5
&#x2AA1;	⪡	double nested less-than	infix	265	5	5
&#x2AA2;	⪢	double nested greater-than	infix	265	5	5
&#x2AA3;	⪣	double nested less-than with underbar	infix	265	5	5
&#x2AA4;	⪤	greater-than overlapping less-than	infix	265	5	5
&#x2AA5;	⪥	greater-than beside less-than	infix	265	5	5
&#x2AA6;	⪦	less-than closed by curve	infix	265	5	5
&#x2AA7;	⪧	greater-than closed by curve	infix	265	5	5
&#x2AA8;	⪨	less-than closed by curve above slanted equal	infix	265	5	5
&#x2AA9;	⪩	greater-than closed by curve above slanted equal	infix	265	5	5
&#x2AAA;	⪪	smaller than	infix	265	5	5
&#x2AAB;	⪫	larger than	infix	265	5	5
&#x2AAC;	⪬	smaller than or equal to	infix	265	5	5
&#x2AAD;	⪭	larger than or equal to	infix	265	5	5
&#x2AAE;	⪮	equals sign with bumpy above	infix	265	5	5
&#x2AB1;	⪱	precedes above single-line not equal to	infix	265	5	5
&#x2AB2;	⪲	succeeds above single-line not equal to	infix	265	5	5
&#x2AB3;	⪳	precedes above equals sign	infix	265	5	5
&#x2AB4;	⪴	succeeds above equals sign	infix	265	5	5
&#x2AB5;	⪵	precedes above not equal to	infix	265	5	5

&#x2AB6;	⪶	succeeds above not equal to	infix	265	5	5
&#x2AB7;	⪷	precedes above almost equal to	infix	265	5	5
&#x2AB8;	⪸	succeeds above almost equal to	infix	265	5	5
&#x2AB9;	⪹	precedes above not almost equal to	infix	265	5	5
&#x2ABA;	⪺	succeeds above not almost equal to	infix	265	5	5
&#x2ABB;	⪻	double precedes	infix	265	5	5
&#x2ABC;	⪼	double succeeds	infix	265	5	5
&#x2ABD;	⪽	subset with dot	infix	265	5	5
&#x2ABE;	⪾	superset with dot	infix	265	5	5
&#x2ABF;	⪿	subset with plus sign below	infix	265	5	5
&#x2AC0;	⫀	superset with plus sign below	infix	265	5	5
&#x2AC1;	⫁	subset with multiplication sign below	infix	265	5	5
&#x2AC2;	⫂	superset with multiplication sign below	infix	265	5	5
&#x2AC3;	⫃	subset of or equal to with dot above	infix	265	5	5
&#x2AC4;	⫄	superset of or equal to with dot above	infix	265	5	5
&#x2AC5;	⫅	subset of above equals sign	infix	265	5	5
&#x2AC6;	⫆	superset of above equals sign	infix	265	5	5
&#x2AC7;	⫇	subset of above tilde operator	infix	265	5	5
&#x2AC8;	⫈	superset of above tilde operator	infix	265	5	5
&#x2AC9;	⫉	subset of above almost equal to	infix	265	5	5
&#x2ACA;	⫊	superset of above almost equal to	infix	265	5	5
&#x2ACB;	⫋	subset of above not equal to	infix	265	5	5
&#x2ACC;	⫌	superset of above not equal to	infix	265	5	5
&#x2ACD;	⫍	square left open box operator	infix	265	5	5
&#x2ACE;	⫎	square right open box operator	infix	265	5	5
&#x2ACF;	⫏	closed subset	infix	265	5	5
&#x2AD0;	⫐	closed superset	infix	265	5	5
&#x2AD1;	⫑	closed subset or equal to	infix	265	5	5
&#x2AD2;	⫒	closed superset or equal to	infix	265	5	5
&#x2AD3;	⫓	subset above superset	infix	265	5	5
&#x2AD4;	⫔	superset above subset	infix	265	5	5
&#x2AD5;	⫕	subset above subset	infix	265	5	5
&#x2AD6;	⫖	superset above superset	infix	265	5	5
&#x2AD7;	⫗	superset beside subset	infix	265	5	5
&#x2AD8;	⫘	superset beside and joined by dash with subset	infix	265	5	5
&#x2AD9;	⫙	element of opening downwards	infix	265	5	5
&#x2ADA;	⫚	pitchfork with tee top	infix	265	5	5
&#x2ADB;	⫛	transversal intersection	infix	265	5	5
&#x2ADC;	⫝̸	forking	infix	265	5	5
&#x2ADD;	⫝	nonforking	infix	265	5	5
&#x2ADE;	⫞	short left tack	infix	265	5	5
&#x2ADF;	⫟	short down tack	infix	265	5	5
&#x2AE0;	⫠	short up tack	infix	265	5	5
&#x2AE1;	⫡	perpendicular with s	infix	265	5	5
&#x2AE2;	⫢	vertical bar triple right turnstile	infix	265	5	5
&#x2AE3;	⫣	double vertical bar left turnstile	infix	265	5	5
&#x2AE4;	⫤	vertical bar double left turnstile	infix	265	5	5

&#x2AE5;	⫥	double vertical bar double left turnstile	infix	265	5	5	
&#x2AE6;	⫦	long dash from left member of double vertical	infix	265	5	5	
&#x2AE7;	⫧	short down tack with overbar	infix	265	5	5	
&#x2AE8;	⫨	short up tack with underbar	infix	265	5	5	
&#x2AE9;	⫩	short up tack above short down tack	infix	265	5	5	
&#x2AEA;	⫪	double down tack	infix	265	5	5	
&#x2AEB;	⫫	double up tack	infix	265	5	5	
&#x2AEC;	⫬	double stroke not sign	infix	265	5	5	
&#x2AED;	⫭	reversed double stroke not sign	infix	265	5	5	
&#x2AEE;	⫮	does not divide with reversed negation slash	infix	265	5	5	
&#x2AEF;	⫯	vertical line with circle above	infix	265	5	5	
&#x2AF0;	⫰	vertical line with circle below	infix	265	5	5	
&#x2AF1;	⫱	down tack with circle below	infix	265	5	5	
&#x2AF2;	⫲	parallel with horizontal stroke	infix	265	5	5	
&#x2AF3;	⫳	parallel with tilde operator	infix	265	5	5	
&#x2AF4;	⫴	triple vertical bar binary relation	infix	265	4	4	
&#x2AF5;	⫵	triple vertical bar with horizontal stroke	infix	265	4	4	
&#x2AF6;	⫶	triple colon operator	infix	265	4	4	
&#x2AF7;	⫷	triple nested less-than	infix	265	5	5	
&#x2AF8;	⫸	triple nested greater-than	infix	265	5	5	
&#x2AF9;	⫹	double-line slanted less-than or equal to	infix	265	5	5	
&#x2AFA;	⫺	double-line slanted greater-than or equal to	infix	265	5	5	
&#x2AFB;	⫻	triple solidus binary relation	infix	265	4	4	
&#x2AFD;	⫽	double solidus operator	infix	265	4	4	
&#x2AFE;	⫾	white vertical bar	infix	265	3	3	
(	(	left parenthesis	prefix	270	0	0	fence stretchy symmetric
)	)	right parenthesis	postfix	270	0	0	fence stretchy symmetric
[	[	left square bracket	prefix	270	0	0	fence stretchy symmetric
]	]	right square bracket	postfix	270	0	0	fence stretchy symmetric
{	{	left curly bracket	prefix	270	0	0	fence stretchy symmetric
|	|	vertical line	infix	270	2	2	fence stretchy symmetric
}	}	right curly bracket	postfix	270	0	0	fence stretchy symmetric
&#x2192;	→	rightwards arrow	infix	270	5	5	stretchy accent
&#x2194;	↔	left right arrow	infix	270	5	5	stretchy accent
&#x2196;	↖	north west arrow	infix	270	5	5	stretchy
&#x2199;	↙	south west arrow	infix	270	5	5	stretchy

&#x219A;	↚	leftwards arrow with stroke	infix	270	5	5	
&#x219B;	↛	rightwards arrow with stroke	infix	270	5	5	
&#x219C;	↜	leftwards wave arrow	infix	270	5	5	stretchy
&#x219D;	↝	rightwards wave arrow	infix	270	5	5	stretchy
&#x219E;	↞	leftwards two headed arrow	infix	270	5	5	stretchy
&#x219F;	↟	upwards two headed arrow	infix	270	5	5	stretchy
&#x21A0;	↠	rightwards two headed arrow	infix	270	5	5	stretchy
&#x21A1;	↡	downwards two headed arrow	infix	270	5	5	stretchy
&#x21A2;	↢	leftwards arrow with tail	infix	270	5	5	stretchy
&#x21A3;	↣	rightwards arrow with tail	infix	270	5	5	stretchy
&#x21A4;	↤	leftwards arrow from bar	infix	270	5	5	stretchy
&#x21A5;	↥	upwards arrow from bar	infix	270	5	5	stretchy
&#x21A6;	↦	rightwards arrow from bar	infix	270	5	5	stretchy
&#x21A7;	↧	downwards arrow from bar	infix	270	5	5	stretchy
&#x21A8;	↨	up down arrow with base	infix	270	5	5	stretchy
&#x21A9;	↩	leftwards arrow with hook	infix	270	5	5	stretchy
&#x21AA;	↪	rightwards arrow with hook	infix	270	5	5	stretchy
&#x21AB;	↫	leftwards arrow with loop	infix	270	5	5	stretchy
&#x21AC;	↬	rightwards arrow with loop	infix	270	5	5	stretchy
&#x21AD;	↭	left right wave arrow	infix	270	5	5	stretchy
&#x21AE;	↮	left right arrow with stroke	infix	270	5	5	
&#x21AF;	↯	downwards zigzag arrow	infix	270	5	5	stretchy
&#x21B0;	↰	upwards arrow with tip leftwards	infix	270	5	5	stretchy
&#x21B1;	↱	upwards arrow with tip rightwards	infix	270	5	5	stretchy
&#x21B2;	↲	downwards arrow with tip leftwards	infix	270	5	5	stretchy
&#x21B3;	↳	downwards arrow with tip rightwards	infix	270	5	5	stretchy
&#x21B4;	↴	rightwards arrow with corner downwards	infix	270	5	5	stretchy
&#x21B5;	↵	downwards arrow with corner leftwards	infix	270	5	5	stretchy
&#x21B6;	↶	anticlockwise top semicircle arrow	infix	270	5	5	
&#x21B7;	↷	clockwise top semicircle arrow	infix	270	5	5	
&#x21B8;	↸	north west arrow to long bar	infix	270	5	5	
&#x21B9;	↹	leftwards arrow to bar over rightwards arrow to bar	infix	270	5	5	stretchy
&#x21BA;	↺	anticlockwise open circle arrow	infix	270	5	5	
&#x21BB;	↻	clockwise open circle arrow	infix	270	5	5	
&#x21BC;	↼	leftwards harpoon with barb upwards	infix	270	5	5	stretchy accent
&#x21BD;	↽	leftwards harpoon with barb downwards	infix	270	5	5	stretchy
&#x21BE;	↾	upwards harpoon with barb rightwards	infix	270	5	5	stretchy
&#x21BF;	↿	upwards harpoon with barb leftwards	infix	270	5	5	stretchy
&#x21C0;	⇀	rightwards harpoon with barb upwards	infix	270	5	5	stretchy accent
&#x21C1;	⇁	rightwards harpoon with barb downwards	infix	270	5	5	stretchy
&#x21C2;	⇂	downwards harpoon with barb rightwards	infix	270	5	5	stretchy
&#x21C3;	⇃	downwards harpoon with barb leftwards	infix	270	5	5	stretchy
&#x21C4;	⇄	rightwards arrow over leftwards arrow	infix	270	5	5	stretchy

&#x21C5;	⇅	upwards arrow leftwards of downwards arrow	infix	270	5	5	stretchy
&#x21C6;	⇆	leftwards arrow over rightwards arrow	infix	270	5	5	stretchy
&#x21C7;	⇇	leftwards paired arrows	infix	270	5	5	stretchy
&#x21C8;	⇈	upwards paired arrows	infix	270	5	5	stretchy
&#x21C9;	⇉	rightwards paired arrows	infix	270	5	5	stretchy
&#x21CA;	⇊	downwards paired arrows	infix	270	5	5	stretchy
&#x21CB;	⇋	leftwards harpoon over rightwards harpoon	infix	270	5	5	stretchy
&#x21CC;	⇌	rightwards harpoon over leftwards harpoon	infix	270	5	5	stretchy
&#x21CD;	⇍	leftwards double arrow with stroke	infix	270	5	5	
&#x21CE;	⇎	left right double arrow with stroke	infix	270	5	5	
&#x21CF;	⇏	rightwards double arrow with stroke	infix	270	5	5	
&#x21D0;	⇐	leftwards double arrow	infix	270	5	5	stretchy
&#x21D2;	⇒	rightwards double arrow	infix	270	5	5	stretchy
&#x21D4;	⇔	left right double arrow	infix	270	5	5	stretchy
&#x21D6;	⇖	north west double arrow	infix	270	5	5	stretchy
&#x21D7;	⇗	north east double arrow	infix	270	5	5	stretchy
&#x21D8;	⇘	south east double arrow	infix	270	5	5	stretchy
&#x21D9;	⇙	south west double arrow	infix	270	5	5	stretchy
&#x21DA;	⇚	leftwards triple arrow	infix	270	5	5	stretchy
&#x21DB;	⇛	rightwards triple arrow	infix	270	5	5	stretchy
&#x21DC;	⇜	leftwards squiggle arrow	infix	270	5	5	stretchy
&#x21DD;	⇝	rightwards squiggle arrow	infix	270	5	5	stretchy
&#x21DE;	⇞	upwards arrow with double stroke	infix	270	5	5	
&#x21DF;	⇟	downwards arrow with double stroke	infix	270	5	5	
&#x21E0;	⇠	leftwards dashed arrow	infix	270	5	5	stretchy
&#x21E1;	⇡	upwards dashed arrow	infix	270	5	5	stretchy
&#x21E2;	⇢	rightwards dashed arrow	infix	270	5	5	stretchy
&#x21E3;	⇣	downwards dashed arrow	infix	270	5	5	stretchy
&#x21E4;	⇤	leftwards arrow to bar	infix	270	5	5	stretchy
&#x21E5;	⇥	rightwards arrow to bar	infix	270	5	5	stretchy
&#x21E6;	⇦	leftwards white arrow	infix	270	5	5	stretchy
&#x21E7;	⇧	upwards white arrow	infix	270	5	5	stretchy
&#x21E8;	⇨	rightwards white arrow	infix	270	5	5	stretchy
&#x21E9;	⇩	downwards white arrow	infix	270	5	5	stretchy
&#x21EA;	⇪	upwards white arrow from bar	infix	270	5	5	stretchy
&#x21EB;	⇫	upwards white arrow on pedestal	infix	270	5	5	stretchy
&#x21EC;	⇬	upwards white arrow on pedestal with horizontal bar	infix	270	5	5	stretchy
&#x21ED;	⇭	upwards white arrow on pedestal with vertical bar	infix	270	5	5	stretchy
&#x21EE;	⇮	upwards white double arrow	infix	270	5	5	stretchy
&#x21EF;	⇯	upwards white double arrow on pedestal	infix	270	5	5	stretchy
&#x21F0;	⇰	rightwards white arrow from wall	infix	270	5	5	stretchy
&#x21F1;	⇱	north west arrow to corner	infix	270	5	5	
&#x21F2;	⇲	south east arrow to corner	infix	270	5	5	
&#x21F3;	⇳	up down white arrow	infix	270	5	5	stretchy
&#x21F4;		right arrow with small circle	infix	270	5	5	
		downwards arrow					

&#x21F5;	⇵	downwards arrow leftwards of upwards arrow	infix	270	5	5	stretchy
&#x21F6;		three rightwards arrows	infix	270	5	5	stretchy
&#x21F7;		leftwards arrow with vertical stroke	infix	270	5	5	
&#x21F8;		rightwards arrow with vertical stroke	infix	270	5	5	
&#x21F9;		left right arrow with vertical stroke	infix	270	5	5	
&#x21FA;		leftwards arrow with double vertical stroke	infix	270	5	5	
&#x21FB;		rightwards arrow with double vertical stroke	infix	270	5	5	
&#x21FC;		left right arrow with double vertical stroke	infix	270	5	5	
&#x21FD;		leftwards open-headed arrow	infix	270	5	5	stretchy
&#x21FE;		rightwards open-headed arrow	infix	270	5	5	stretchy
&#x21FF;		left right open-headed arrow	infix	270	5	5	stretchy
&#x22B8;	⊸	multimap	infix	270	5	5	
&#x2308;	⌈	left ceiling	prefix	270	0	0	fence stretchy symmetric
&#x2309;	⌉	right ceiling	postfix	270	0	0	fence stretchy symmetric
&#x230A;	⌊	left floor	prefix	270	0	0	fence stretchy symmetric
&#x230B;	⌋	right floor	postfix	270	0	0	fence stretchy symmetric
&#x27E7;	⟧	mathematical right white square bracket	postfix	270	0	0	fence stretchy symmetric
&#x27E9;	⟩	mathematical right angle bracket	postfix	270	0	0	fence stretchy symmetric
&#x2900;		rightwards two-headed arrow with vertical stroke	infix	270	5	5	
&#x2901;		rightwards two-headed arrow with double vertical stroke	infix	270	5	5	
&#x2902;		leftwards double arrow with vertical stroke	infix	270	5	5	
&#x2903;		rightwards double arrow with vertical stroke	infix	270	5	5	
&#x2904;		left right double arrow with vertical stroke	infix	270	5	5	
&#x2905;		rightwards two-headed arrow from bar	infix	270	5	5	
&#x2906;		leftwards double arrow from bar	infix	270	5	5	
&#x2907;		rightwards double arrow from bar	infix	270	5	5	
&#x2908;		downwards arrow with horizontal stroke	infix	270	5	5	
&#x2909;		upwards arrow with horizontal stroke	infix	270	5	5	
&#x290A;		upwards triple arrow	infix	270	5	5	stretchy
&#x290B;		downwards triple arrow	infix	270	5	5	stretchy
&#x290C;		leftwards double dash arrow	infix	270	5	5	stretchy
&#x290D;		rightwards double dash arrow	infix	270	5	5	stretchy

&#x290E;		leftwards triple dash arrow	infix	270	5	5	stretchy
&#x290F;		rightwards triple dash arrow	infix	270	5	5	stretchy
&#x2910;		rightwards two-headed triple dash arrow	infix	270	5	5	stretchy
&#x2911;		rightwards arrow with dotted stem	infix	270	5	5	
&#x2912;		upwards arrow to bar	infix	270	5	5	stretchy
&#x2913;		downwards arrow to bar	infix	270	5	5	stretchy
&#x2914;		rightwards arrow with tail with vertical stroke	infix	270	5	5	
&#x2915;		rightwards arrow with tail with double vertical stroke	infix	270	5	5	
&#x2916;		rightwards two-headed arrow with tail	infix	270	5	5	
&#x2917;		rightwards two-headed arrow with tail with vertical stroke	infix	270	5	5	
&#x2918;		rightwards two-headed arrow with tail with double vertical stroke	infix	270	5	5	
&#x2919;		leftwards arrow-tail	infix	270	5	5	
&#x291A;		rightwards arrow-tail	infix	270	5	5	
&#x291B;		leftwards double arrow-tail	infix	270	5	5	
&#x291C;		rightwards double arrow-tail	infix	270	5	5	
&#x291D;		leftwards arrow to black diamond	infix	270	5	5	
&#x291E;		rightwards arrow to black diamond	infix	270	5	5	
&#x291F;		leftwards arrow from bar to black diamond	infix	270	5	5	
&#x2920;		rightwards arrow from bar to black diamond	infix	270	5	5	
&#x2921;		north west and south east arrow	infix	270	5	5	stretchy
&#x2922;		north east and south west arrow	infix	270	5	5	stretchy
&#x2923;		north west arrow with hook	infix	270	5	5	
&#x2924;		north east arrow with hook	infix	270	5	5	
&#x2925;		south east arrow with hook	infix	270	5	5	
&#x2926;		south west arrow with hook	infix	270	5	5	
&#x2927;		north west arrow and north east arrow	infix	270	5	5	
&#x2928;		north east arrow and south east arrow	infix	270	5	5	
&#x2929;		south east arrow and south west arrow	infix	270	5	5	
&#x292A;		south west arrow and north west arrow	infix	270	5	5	
&#x292B;		rising diagonal crossing falling diagonal	infix	270	5	5	
&#x292C;		falling diagonal crossing rising diagonal	infix	270	5	5	
&#x292D;		south east arrow crossing north east arrow	infix	270	5	5	
&#x292E;		north east arrow crossing south east arrow	infix	270	5	5	
&#x292F;		falling diagonal crossing north east arrow	infix	270	5	5	
&#x2930;		rising diagonal crossing south east arrow	infix	270	5	5	
&#x2931;		north east arrow crossing north west arrow	infix	270	5	5	
		north west arrow					

&#x2932;		north west arrow crossing north east arrow	infix	270	5	5	
&#x2933;		wave arrow pointing directly right	infix	270	5	5	
&#x2934;		arrow pointing rightwards then curving upwards	infix	270	5	5	
&#x2935;		arrow pointing rightwards then curving downwards	infix	270	5	5	
&#x2936;		arrow pointing downwards then curving leftwards	infix	270	5	5	
&#x2937;		arrow pointing downwards then curving rightwards	infix	270	5	5	
&#x2938;		right-side arc clockwise arrow	infix	270	5	5	
&#x2939;		left-side arc anticlockwise arrow	infix	270	5	5	
&#x293A;		top arc anticlockwise arrow	infix	270	5	5	
&#x293B;		bottom arc anticlockwise arrow	infix	270	5	5	
&#x293C;		top arc clockwise arrow with minus	infix	270	5	5	
&#x293D;		top arc anticlockwise arrow with plus	infix	270	5	5	
&#x293E;		lower right semicircular clockwise arrow	infix	270	5	5	
&#x293F;		lower left semicircular anticlockwise arrow	infix	270	5	5	
&#x2940;		anticlockwise closed circle arrow	infix	270	5	5	
&#x2941;		clockwise closed circle arrow	infix	270	5	5	
&#x2942;		rightwards arrow above short leftwards arrow	infix	270	5	5	
&#x2943;		leftwards arrow above short rightwards arrow	infix	270	5	5	
&#x2944;		short rightwards arrow above leftwards arrow	infix	270	5	5	
&#x2945;		rightwards arrow with plus below	infix	270	5	5	
&#x2946;		leftwards arrow with plus below	infix	270	5	5	
&#x2947;		rightwards arrow through x	infix	270	5	5	
&#x2948;		left right arrow through small circle	infix	270	5	5	
&#x2949;		upwards two-headed arrow from small circle	infix	270	5	5	
&#x294A;		left barb up right barb down harpoon	infix	270	5	5	
&#x294B;		left barb down right barb up harpoon	infix	270	5	5	
&#x294C;		up barb right down barb left harpoon	infix	270	5	5	
&#x294D;		up barb left down barb right harpoon	infix	270	5	5	
&#x294E;		left barb up right barb up harpoon	infix	270	5	5	stretchy accent
&#x294F;		up barb right down barb right harpoon	infix	270	5	5	stretchy
&#x2950;		left barb down right barb down harpoon	infix	270	5	5	stretchy
&#x2951;		up barb left down barb left harpoon	infix	270	5	5	stretchy
&#x2952;		leftwards harpoon with barb up to bar	infix	270	5	5	stretchy
&#x2953;		rightwards harpoon with barb up to bar	infix	270	5	5	stretchy
&#x2954;		upwards harpoon with barb right to bar	infix	270	5	5	stretchy
&#x2955;		downwards harpoon with barb right to bar	infix	270	5	5	stretchy
&#x2956;		leftwards harpoon with barb down to bar	infix	270	5	5	stretchy

&#x2957;		rightwards harpoon with barb down to bar	infix	270	5	5	stretchy
&#x2958;		upwards harpoon with barb left to bar	infix	270	5	5	stretchy
&#x2959;		downwards harpoon with barb left to bar	infix	270	5	5	stretchy
&#x295A;		leftwards harpoon with barb up from bar	infix	270	5	5	stretchy
&#x295B;		rightwards harpoon with barb up from bar	infix	270	5	5	stretchy
&#x295C;		upwards harpoon with barb right from bar	infix	270	5	5	stretchy
&#x295D;		downwards harpoon with barb right from bar	infix	270	5	5	stretchy
&#x295E;		leftwards harpoon with barb down from bar	infix	270	5	5	stretchy
&#x295F;		rightwards harpoon with barb down from bar	infix	270	5	5	stretchy
&#x2960;		upwards harpoon with barb left from bar	infix	270	5	5	stretchy
&#x2961;		downwards harpoon with barb left from bar	infix	270	5	5	stretchy
&#x2962;	⥢	leftwards harpoon with barb up above leftwards harpoon with barb down	infix	270	5	5	
&#x2963;	⥣	upwards harpoon with barb left beside upwards harpoon with barb right	infix	270	5	5	
&#x2964;	⥤	rightwards harpoon with barb up above rightwards harpoon with barb down	infix	270	5	5	
&#x2965;	⥥	downwards harpoon with barb left beside downwards harpoon with barb right	infix	270	5	5	
&#x2966;		leftwards harpoon with barb up above rightwards harpoon with barb up	infix	270	5	5	
&#x2967;		leftwards harpoon with barb down above rightwards harpoon with barb down	infix	270	5	5	
&#x2968;		rightwards harpoon with barb up above leftwards harpoon with barb up	infix	270	5	5	
&#x2969;		rightwards harpoon with barb down above leftwards harpoon with barb down	infix	270	5	5	
&#x296A;		leftwards harpoon with barb up above long dash	infix	270	5	5	
&#x296B;		leftwards harpoon with barb down below long dash	infix	270	5	5	
&#x296C;		rightwards harpoon with barb up above long dash	infix	270	5	5	
&#x296D;		rightwards harpoon with barb down below long dash	infix	270	5	5	
&#x296E;		upwards harpoon with barb left beside downwards harpoon with barb right	infix	270	5	5	stretchy
&#x296F;		downwards harpoon with barb left beside upwards harpoon with barb right	infix	270	5	5	stretchy
&#x2970;		right double arrow with rounded head	infix	270	5	5	
&#x2971;		equals sign above rightwards arrow	infix	270	5	5	
&#x2972;		tilde operator above rightwards arrow	infix	270	5	5	
&#x2973;		leftwards arrow above tilde operator	infix	270	5	5	
&#x2974;		rightwards arrow above tilde operator	infix	270	5	5	
&#x2975;		rightwards arrow above almost equal to	infix	270	5	5	
&#x2976;		less-than above leftwards arrow	infix	270	5	5	
&#x2977;		leftwards arrow through	infix	270	5	5	

&#x2977;		less-than	infix	270	5	5	
&#x2978;		greater-than above rightwards arrow	infix	270	5	5	
&#x2979;		subset above rightwards arrow	infix	270	5	5	
&#x297A;		leftwards arrow through subset	infix	270	5	5	
&#x297B;		superset above leftwards arrow	infix	270	5	5	
&#x297C;		left fish tail	infix	270	5	5	
&#x297D;		right fish tail	infix	270	5	5	
&#x297E;		up fish tail	infix	270	5	5	
&#x297F;		down fish tail	infix	270	5	5	
&#x2980;	⦀	triple vertical bar delimiter	infix	270	0	0	
&#x2983;	⦃	left white curly bracket	prefix	270	0	0	fence stretchy symmetric
&#x2984;	⦄	right white curly bracket	postfix	270	0	0	fence stretchy symmetric
&#x2985;	⦅	left white parenthesis	prefix	270	0	0	fence stretchy symmetric
&#x2986;	⦆	right white parenthesis	postfix	270	0	0	fence stretchy symmetric
&#x2987;	⦇	z notation left image bracket	prefix	270	0	0	fence stretchy symmetric
&#x2988;	⦈	z notation right image bracket	postfix	270	0	0	fence stretchy symmetric
&#x2989;	⦉	z notation left binding bracket	prefix	270	0	0	fence stretchy symmetric
&#x298A;	⦊	z notation right binding bracket	postfix	270	0	0	fence stretchy symmetric
&#x298B;	⦋	left square bracket with underbar	prefix	270	0	0	fence stretchy symmetric
&#x298C;	⦌	right square bracket with underbar	postfix	270	0	0	fence stretchy symmetric
&#x298D;	⦍	left square bracket with tick in top corner	prefix	270	0	0	fence stretchy symmetric
&#x298E;	⦎	right square bracket with tick in bottom corner	postfix	270	0	0	fence stretchy symmetric
&#x298F;	⦏	left square bracket with tick in bottom corner	prefix	270	0	0	fence stretchy symmetric
&#x2990;	⦐	right square bracket with tick in top corner	postfix	270	0	0	fence stretchy symmetric
&#x2997;	⦗	left black tortoise shell bracket	prefix	270	0	0	fence stretchy symmetric
							fence

&#x2998;	⦘	right black tortoise shell bracket	postfix	270	0	0	stretchy symmetric
&#x2999;	⦙	dotted fence	infix	270	3	3	
&#x299A;	⦚	vertical zigzag line	infix	270	3	3	
&#x299B;	⦛	measured angle opening left	infix	270	3	3	
&#x299C;	⦜	right angle variant with square	infix	270	3	3	
&#x299D;	⦝	measured right angle with dot	infix	270	3	3	
&#x299E;	⦞	angle with s inside	infix	270	3	3	
&#x299F;	⦟	acute angle	infix	270	3	3	
&#x29DF;	⧟	double-ended multimap	infix	270	3	3	
&#x29EF;	⧯	error-barred black square	infix	270	3	3	
&#x29F4;	⧴	rule-delayed	infix	270	5	5	
&#x29FC;	⧼	left-pointing curved angle bracket	prefix	270	0	0	fence stretchy symmetric
&#x29FD;	⧽	right-pointing curved angle bracket	postfix	270	0	0	fence stretchy symmetric
&#x2190;	←	leftwards arrow	infix	271	5	5	stretchy accent
&#x2197;	↗	north east arrow	infix	271	5	5	stretchy
&#x2198;	↘	south east arrow	infix	271	5	5	stretchy
+	+	plus sign	infix	275	4	4	
+	+	plus sign	prefix	275	0	1	
-	-	hyphen-minus	infix	275	4	4	
-	-	hyphen-minus	prefix	275	0	1	
&#xB1;	±	plus-minus sign	infix	275	4	4	
&#xB1;	±	plus-minus sign	prefix	275	0	1	
&#x2212;	−	minus sign	infix	275	4	4	
&#x2212;	−	minus sign	prefix	275	0	1	
&#x2213;	∓	minus-or-plus sign	infix	275	4	4	
&#x2213;	∓	minus-or-plus sign	prefix	275	0	1	
&#x2214;	∔	dot plus	infix	275	4	4	
&#x229E;	⊞	squared plus	infix	275	4	4	
&#x229F;	⊟	squared minus	infix	275	4	4	
&#x2211;	∑	n-ary summation	prefix	290	1	2	largeop movablelimits symmetric
&#x2A0A;	⨊	modulo two sum	prefix	290	1	2	largeop movablelimits symmetric
&#x2A0B;	⨋	summation with integral	prefix	290	1	2	largeop symmetric
&#x222C;	∬	double integral	prefix	300	0	1	largeop symmetric
&#x222D;	∭	triple integral	prefix	300	0	1	largeop symmetric
&#x2295;	⊕	circled plus	infix	300	4	4	
&#x2296;	⊖	circled minus	infix	300	4	4	
&#x2298;	⊘	circled division slash	infix	300	4	4	
&#x2A01;	⨁	n-ary circled plus operator	prefix	300	1	2	largeop movablelimits symmetric
&#x222B;	∫	integral	prefix	310	0	1	largeop symmetric

&#x222E;	∮	contour integral	prefix	310	0	1	largeop symmetric
&#x222F;	∯	surface integral	prefix	310	0	1	largeop symmetric
&#x2230;	∰	volume integral	prefix	310	0	1	largeop symmetric
&#x2231;	∱	clockwise integral	prefix	310	0	1	largeop symmetric
&#x2232;	∲	clockwise contour integral	prefix	310	0	1	largeop symmetric
&#x2233;	∳	anticlockwise contour integral	prefix	310	0	1	largeop symmetric
&#x2A0C;	⨌	quadruple integral operator	prefix	310	0	1	largeop symmetric
&#x2A0D;	⨍	finite part integral	prefix	310	1	2	largeop symmetric
&#x2A0E;	⨎	integral with double stroke	prefix	310	1	2	largeop symmetric
&#x2A0F;	⨏	integral average with slash	prefix	310	1	2	largeop symmetric
&#x2A10;	⨐	circulation function	prefix	310	1	2	largeop movablelimits symmetric
&#x2A11;	⨑	anticlockwise integration	prefix	310	1	2	largeop movablelimits symmetric
&#x2A12;	⨒	line integration with rectangular path around pole	prefix	310	1	2	largeop movablelimits symmetric
&#x2A13;	⨓	line integration with semicircular path around pole	prefix	310	1	2	largeop movablelimits symmetric
&#x2A14;	⨔	line integration not including the pole	prefix	310	1	2	largeop movablelimits symmetric
&#x2A15;	⨕	integral around a point operator	prefix	310	1	2	largeop symmetric
&#x2A16;	⨖	quaternion integral operator	prefix	310	1	2	largeop symmetric
&#x2A17;	⨗	integral with leftwards arrow with hook	prefix	310	1	2	largeop symmetric
&#x2A18;	⨘	integral with times sign	prefix	310	1	2	largeop symmetric
&#x2A19;	⨙	integral with intersection	prefix	310	1	2	largeop symmetric
&#x2A1A;	⨚	integral with union	prefix	310	1	2	largeop symmetric
&#x2A1B;	⨛	integral with overbar	prefix	310	1	2	largeop symmetric
&#x2A1C;	⨜	integral with underbar	prefix	310	1	2	largeop symmetric
&#x22C3;	⋃	n-ary union	prefix	320	1	2	largeop movablelimits symmetric
&#x2A03;	⨃	n-ary union operator with dot	prefix	320	1	2	largeop movablelimits symmetric
&#x2A04;	⨄	n-ary union operator with plus	prefix	320	1	2	largeop movablelimits symmetric

&#x22C2;	⋂	n-ary intersection	prefix	330	1	2	largeop movablelimits symmetric
&#x2A05;	⨅	n-ary square intersection operator	prefix	330	1	2	largeop movablelimits symmetric
&#x2A06;	⨆	n-ary square union operator	prefix	330	1	2	largeop movablelimits symmetric
&#x2AFC;	⫼	large triple vertical bar operator	prefix	330	1	2	largeop movablelimits symmetric
&#x2AFF;	⫿	n-ary white vertical bar	prefix	330	1	2	largeop movablelimits symmetric
&#x2240;	≀	wreath product	infix	340	4	4	
&#x220F;	∏	n-ary product	prefix	350	1	2	largeop movablelimits symmetric
&#x2210;	∐	n-ary coproduct	prefix	350	1	2	largeop movablelimits symmetric
&#x2229;	∩	intersection	infix	350	4	4	
&#x222A;	∪	union	infix	350	4	4	
*	*	asterisk	infix	390	3	3	
.	.	full stop	infix	390	3	3	
&#xD7;	×	multiplication sign	infix	390	4	4	
&#x2022;	•	bullet	infix	390	4	4	
&#x2062;		invisible times	infix	390	0	0	
&#x22A0;	⊠	squared times	infix	390	4	4	
&#x22A1;	⊡	squared dot operator	infix	390	4	4	
&#x2A2F;	⨯	vector or cross product	infix	390	4	4	
&#xB7;	·	middle dot	infix	600	4	4	
&#x22C5;	⋅	dot operator	infix	600	4	4	
&#x2297;	⊗	circled times	infix	610	4	4	
&#x2A02;	⨂	n-ary circled times operator	prefix	610	1	2	largeop movablelimits symmetric
&#x2A09;	⨉	n-ary times operator	prefix	610	1	2	largeop movablelimits symmetric
&#x22C1;	⋁	n-ary logical or	prefix	620	1	2	largeop movablelimits symmetric
&#x2A08;	⩈	two logical or operator	prefix	620	1	2	largeop movablelimits symmetric
&#x22C0;	⋀	n-ary logical and	prefix	630	1	2	largeop movablelimits symmetric
&#x2A07;	⩇	two logical and operator	prefix	630	1	2	largeop movablelimits symmetric
%	%	percent sign	infix	640	3	3	
\	\	reverse solidus	infix	650	0	0	
&#x2216;	∖	set minus	infix	650	4	4	
/	/	solidus	infix	660	1	1	
&#xF7;	÷	division sign	infix	660	4	4	

&#x2220;	∠	angle	prefix	670	0	0	
&#x2221;	∡	measured angle	prefix	670	0	0	
&#x2222;	∢	spherical angle	prefix	670	0	0	
&#xAC;	¬	not sign	prefix	680	2	1	
&#x2299;	⊙	circled dot operator	infix	710	4	4	
&#x2A00;	⨀	n-ary circled dot operator	prefix	710	1	2	largeop movablelimits symmetric
&#x2202;	∂	partial differential	prefix	740	2	1	
&#x2207;	∇	nabla	prefix	740	2	1	
&#x2191;	↑	upwards arrow	infix	770	5	5	stretchy
&#x2193;	↓	downwards arrow	infix	770	5	5	stretchy
&#x2195;	↕	up down arrow	infix	770	5	5	stretchy
&#x21D1;	⇑	upwards double arrow	infix	770	5	5	stretchy
&#x21D3;	⇓	downwards double arrow	infix	770	5	5	stretchy
&#x21D5;	⇕	up down double arrow	infix	770	5	5	stretchy
&#x2032;	′	prime	postfix	800	0	2	
&#x266D;	♭	music flat sign	postfix	800	0	2	
&#x266E;	♮	music natural sign	postfix	800	0	2	
&#x266F;	♯	music sharp sign	postfix	800	0	2	
!	!	exclamation mark	postfix	810	1	0	
!!	!!	multiple character operator: !!	postfix	810	1	0	
min	min	multiple character operator: "min"	prefix	845	1	3	
&#x3C3;	σ	greek small letter sigma	prefix	845	1	1	
&#x2111;	ℑ	black-letter capital i	prefix	845	1	1	
&#x2113;	ℓ	script small l	prefix	845	1	1	
&#x211C;	ℜ	black-letter capital r	prefix	845	1	1	
&#x2145;	ⅅ	double-struck italic capital d	prefix	845	2	1	
&#x2146;	ⅆ	double-struck italic small d	prefix	845	2	0	
&#x2147;	ⅇ	double-struck italic small e	prefix	845	0	0	
&#x2148;	ⅈ	double-struck italic small i	prefix	845	0	0	
&#x2149;	ⅉ	double-struck italic small j	prefix	845	0	0	
&#x221A;	√	square root	prefix	845	1	1	stretchy
&#x221B;	∛	cube root	prefix	845	1	1	
&#x221C;	∜	fourth root	prefix	845	1	1	
&#x2061;		function application	infix	850	0	0	
&amp;	&	ampersand	postfix	880	0	0	
'	'	apostrophe	postfix	880	0	0	accent
++	++	multiple character operator: ++	postfix	880	0	0	
--	--	multiple character operator: --	postfix	880	0	0	
^	^	circumflex accent	postfix	880	0	0	stretchy accent
_	_	low line	postfix	880	0	0	stretchy accent
`	`	grave accent	postfix	880	0	0	accent
~	~	tilde	postfix	880	0	0	stretchy accent
&#xA8;	¨	diaeresis	postfix	880	0	0	accent
&#xAF;	¯	macron	postfix	880	0	0	stretchy accent

&#xB0;	°	degree sign	postfix	880	0	0	
&#xB4;	´	acute accent	postfix	880	0	0	accent
&#xB8;	¸	cedilla	postfix	880	0	0	accent
&#x2C6;	ˆ	modifier letter circumflex accent	postfix	880	0	0	stretchy accent
&#x2C7;	ˇ	caron	postfix	880	0	0	stretchy accent
&#x2D8;	˘	breve	postfix	880	0	0	accent
&#x2D9;	˙	dot above	postfix	880	0	0	accent
&#x2DA;	˚	ring above	postfix	880	0	0	accent
&#x2DC;	˜	small tilde	postfix	880	0	0	stretchy accent
&#x2DD;	˝	double acute accent	postfix	880	0	0	accent
&#x302;	̂	combining circumflex accent	postfix	880	0	0	accent
&#x311;	̑	combining inverted breve	postfix	880	0	0	accent
&#x203E;	‾	overline	postfix	880	0	0	stretchy accent
&#x2064;	⁤	invisible plus	infix	880	0	0	
&#x20DB;	⃛	combining three dots above	postfix	880	0	0	accent
&#x23B4;		top square bracket	postfix	880	0	0	stretchy accent
&#x23B5;		bottom square bracket	postfix	880	0	0	stretchy accent
&#x23DC;		top parenthesis	postfix	880	0	0	stretchy accent
&#x23DD;		bottom parenthesis	postfix	880	0	0	stretchy accent
&#x23DE;		top curly bracket	postfix	880	0	0	stretchy accent
&#x23DF;		bottom curly bracket	postfix	880	0	0	stretchy accent
&#x2713;	✓	check mark	infix	880	0	0	stretchy accent
&#x2218;	∘	ring operator	infix	950	4	4	

Overview: Mathematical Markup Language (MathML) Version 3.0
Previous: B Media Types Registrations
Next: D Glossary