

C Operator Dictionary (Non-Normative)

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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 \TeX , 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. Finally some rarely used non-boolean properties are shown in the Properties column together with a value, for example `linebreakstyle=after`.

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	<code>veryverythinmathspace</code>	1/18 em
2	<code>verythinmathspace</code>	2/18 em
3	<code>thinmathspace</code>	3/18 em
4	<code>mediummathspace</code>	4/18 em
5	<code>thickmathspace</code>	5/18 em
6	<code>verythickmathspace</code>	6/18 em
7	<code>veryverythickmathspace</code>	7/18 em

For the invisible operators whose content is `⁢` or `⁡`, 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>⁡</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>⁢</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	<code>lspace</code>	<code>rspace</code>	Properties
<code>&#x2018;</code>	‘	left single quotation mark	prefix	10	0	0	fence
<code>&#x2019;</code>	’	right single quotation mark	postfix	10	0	0	fence
<code>&#x201C;</code>	“	left double quotation mark	prefix	10	0	0	fence
<code>&#x201D;</code>	”	right double quotation mark	postfix	10	0	0	fence
(	(	left parenthesis	prefix	20	0	0	fence, stretchy, symmetric
)	)	right parenthesis	postfix	20	0	0	fence, stretchy, symmetric
[	[	left square bracket	prefix	20	0	0	fence, stretchy, symmetric
]	]	right square bracket	postfix	20	0	0	fence, stretchy, symmetric
{	{	left curly bracket	prefix	20	0	0	fence, stretchy, symmetric
|	|	vertical line	prefix	20	0	0	fence, stretchy, symmetric
|	|	vertical line	postfix	20	0	0	fence, stretchy, symmetric
||	||	multiple character operator: ||	prefix	20	0	0	fence, stretchy, symmetric
||	||	multiple character operator: ||	postfix	20	0	0	fence, stretchy, symmetric

III	III	multiple character operator: III	prefix	20	0	0	fence, stretchy, symmetric
III	III	multiple character operator: III	postfix	20	0	0	fence, stretchy, symmetric
}	}	right curly bracket	postfix	20	0	0	fence, stretchy, symmetric
‖	II	double vertical line	prefix	20	0	0	fence, stretchy
‖	II	double vertical line	postfix	20	0	0	fence, stretchy
⌈	┌	left ceiling	prefix	20	0	0	fence, stretchy, symmetric
⌉	┐	right ceiling	postfix	20	0	0	fence, stretchy, symmetric
⌊	└	left floor	prefix	20	0	0	fence, stretchy, symmetric
⌋	┘	right floor	postfix	20	0	0	fence, stretchy, symmetric
❲	(light left tortoise shell bracket ornament	prefix	20	0	0	fence, stretchy, symmetric
❳)	light right tortoise shell bracket ornament	postfix	20	0	0	fence, stretchy, symmetric
⟦	[mathematical left white square bracket	prefix	20	0	0	fence, stretchy, symmetric
⟧]	mathematical right white square bracket	postfix	20	0	0	fence, stretchy, symmetric
⟨	<	mathematical left angle bracket	prefix	20	0	0	fence, stretchy, symmetric
⟩	>	mathematical right angle bracket	postfix	20	0	0	fence, stretchy, symmetric
⟪	<	mathematical left double angle bracket	prefix	20	0	0	fence, stretchy, symmetric
⟫	>	mathematical right double angle bracket	postfix	20	0	0	fence, stretchy, symmetric
⟬		mathematical left white tortoise shell bracket	prefix	20	0	0	fence, stretchy, symmetric
⟭		mathematical right white tortoise shell bracket	postfix	20	0	0	fence, stretchy, symmetric
⟮		mathematical left flattened parenthesis	prefix	20	0	0	fence, stretchy, symmetric
⟯		mathematical right flattened parenthesis	postfix	20	0	0	fence, stretchy, symmetric
⦀		triple vertical bar delimiter	prefix	20	0	0	fence, stretchy
⦀		triple vertical bar delimiter	postfix	20	0	0	fence, stretchy
⦃	{	left white curly bracket	prefix	20	0	0	fence, stretchy, symmetric
⦄	}	right white curly bracket	postfix	20	0	0	fence, stretchy, symmetric
⦅	(left white parenthesis	prefix	20	0	0	fence, stretchy, symmetric
⦆)	right white parenthesis	postfix	20	0	0	fence, stretchy, symmetric
⦇	(z notation left image bracket	prefix	20	0	0	fence, stretchy, symmetric
⦈)	z notation right image bracket	postfix	20	0	0	fence, stretchy, symmetric
⦉	◁	z notation left binding bracket	prefix	20	0	0	fence, stretchy, symmetric
⦊	▷	z notation right binding bracket	postfix	20	0	0	fence, stretchy, symmetric

&#x298B;	[	left square bracket with underbar	prefix	20	0	0	fence, stretchy, symmetric
&#x298C;	]	right square bracket with underbar	postfix	20	0	0	fence, stretchy, symmetric
&#x298D;	[	left square bracket with tick in top corner	prefix	20	0	0	fence, stretchy, symmetric
&#x298E;	]	right square bracket with tick in bottom corner	postfix	20	0	0	fence, stretchy, symmetric
&#x298F;	[	left square bracket with tick in bottom corner	prefix	20	0	0	fence, stretchy, symmetric
&#x2990;	]	right square bracket with tick in top corner	postfix	20	0	0	fence, stretchy, symmetric
&#x2991;	<	left angle bracket with dot	prefix	20	0	0	fence, stretchy, symmetric
&#x2992;	>	right angle bracket with dot	postfix	20	0	0	fence, stretchy, symmetric
&#x2993;	<	left arc less-than bracket	prefix	20	0	0	fence, stretchy, symmetric
&#x2994;	>	right arc greater-than bracket	postfix	20	0	0	fence, stretchy, symmetric
&#x2995;	<	double left arc greater-than bracket	prefix	20	0	0	fence, stretchy, symmetric
&#x2996;	>	double right arc less-than bracket	postfix	20	0	0	fence, stretchy, symmetric
&#x2997;	[	left black tortoise shell bracket	prefix	20	0	0	fence, stretchy, symmetric
&#x2998;	]	right black tortoise shell bracket	postfix	20	0	0	fence, stretchy, symmetric
&#x29FC;	<	left-pointing curved angle bracket	prefix	20	0	0	fence, stretchy, symmetric
&#x29FD;	>	right-pointing curved angle bracket	postfix	20	0	0	fence, stretchy, symmetric
;	;	semicolon	infix	30	0	3	separator, linebreakstyle=after
,	,	comma	infix	40	0	3	separator, linebreakstyle=after
&#x2063;		invisible separator	infix	40	0	0	separator, linebreakstyle=after
&#x2234;	∴	therefore	infix	70	5	5	
&#x2235;	∵	because	infix	70	5	5	
->	->	multiple character operator: ->	infix	90	5	5	
..	..	multiple character operator: ..	postfix	100	0	0	
...	...	multiple character operator: ...	postfix	100	0	0	
:	:	colon	infix	100	1	2	
&#x3F6;	ϐ	greek reversed lunate epsilon symbol	infix	110	5	5	
&#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
&amp;&amp;	&&	multiple character operator: &&	infix	200	4	4
&#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
&#x2282;&#x20D2;	⊂ |	subset of with vertical line	infix	240	5	5
&#x2283;	⊃	superset of	infix	240	5	5
&#x2283;&#x20D2;	⊃ |	superset of with vertical line	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
&lt;=	<=	multiple character operator: <=	infix	241	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
>=	>=	multiple character operator: >=	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
&#x226A;&#x338;	≐	much less than with slash	infix	260	5	5
&#x226B;	≐	much greater-than	infix	260	5	5
&#x226B;&#x338;	≐	much greater than with slash	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	
&#x2AAF;&#x338;		precedes above single-line equals sign with slash	infix	260	5	5	
&#x2AB0;		succeeds above single-line equals sign	infix	260	5	5	
&#x2AB0;&#x338;		succeeds above single-line equals sign with slash	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	
&#x2218;	∘	ring 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	
&#x223D;&#x331;	⋈	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	
&#x2242;&#x338;	≡	minus tilde with slash	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	
&#x224E;&#x338;	≐	geometrically equivalent to with slash	infix	265	5	5	
&#x224F;	≐	difference between	infix	265	5	5	
&#x224F;&#x338;	≐	difference between with slash	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	
&#x2266;&#x338;	≐	less-than over equal to with slash	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;	\succcurlyeq	succeeds or equivalent to	infix	265	5	5
&#x227F;&#x338;	$\succcurlyeq\diagup$	succeeds or equivalent to with slash	infix	265	5	5
&#x228C;	\multimap	multiset	infix	265	4	4
&#x228D;	\multimap	multiset multiplication	infix	265	4	4
&#x228E;	\multimap	multiset union	infix	265	4	4
&#x228F;	\square	square image of	infix	265	5	5
&#x228F;&#x338;	$\square\diagup$	square image of with slash	infix	265	5	5
&#x2290;	\sqsubset	square original of	infix	265	5	5
&#x2290;&#x338;	$\sqsubset\diagup$	square original of with slash	infix	265	5	5
&#x2291;	\sqsubseteq	square image of or equal to	infix	265	5	5
&#x2292;	\sqsupseteq	square original of or equal to	infix	265	5	5
&#x2293;	\sqcap	square cap	infix	265	4	4
&#x2294;	\sqcup	square cup	infix	265	4	4
&#x229A;	\odot	circled ring operator	infix	265	4	4
&#x229B;	\otimes	circled asterisk operator	infix	265	4	4
&#x229C;	\ominus	circled equals	infix	265	4	4
&#x229D;	\ominus	circled dash	infix	265	4	4
&#x22A6;	\models	assertion	infix	265	5	5
&#x22A7;	\models	models	infix	265	5	5
&#x22AA;	\equiv	triple vertical bar right turnstile	infix	265	5	5
&#x22AB;	\equiv	double vertical bar double right turnstile	infix	265	5	5
&#x22B0;	\prec	precedes under relation	infix	265	5	5
&#x22B1;	\succ	succeeds under relation	infix	265	5	5
&#x22B2;	\triangleleft	normal subgroup of	infix	265	5	5
&#x22B3;	\triangleright	contains as normal subgroup	infix	265	5	5
&#x22B6;	\dashv	original of	infix	265	5	5
&#x22B7;	\dashv	image of	infix	265	5	5
&#x22B9;	\dagger	hermitian conjugate matrix	infix	265	5	5
&#x22BA;	\intercal	intercalate	infix	265	4	4
&#x22BB;	$\underline{\vee}$	xor	infix	265	4	4
&#x22BC;	$\overline{\wedge}$	nand	infix	265	4	4
&#x22BD;	∇	nor	infix	265	4	4
&#x22BE;	\angle	right angle with arc	infix	265	3	3
&#x22BF;	\triangle	right triangle	infix	265	3	3
&#x22C4;	\diamond	diamond operator	infix	265	4	4
&#x22C6;	\star	star operator	infix	265	4	4
&#x22C7;	\div	division times	infix	265	4	4
&#x22C8;	\bowtie	bowtie	infix	265	5	5
&#x22CD;	\equiv	reversed tilde equals	infix	265	5	5
&#x22CE;	\vee	curly logical or	infix	265	4	4
&#x22CF;	\wedge	curly logical and	infix	265	4	4
&#x22D0;	\subseteq	double subset	infix	265	5	5
&#x22D1;	\supseteq	double superset	infix	265	5	5
&#x22D2;	\cap	double intersection	infix	265	4	4
&#x22D3;	\cup	double union	infix	265	4	4
&#x22D5;	\equiv	equal and parallel to	infix	265	5	5
&#x22DA;	\lessgtr	less-than equal to or greater-than	infix	265	5	5
&#x22DB;	\lessgtr	greater-than equal to or less-than	infix	265	5	5
&#x22DC;	\lessgtr	equal to or less-than	infix	265	5	5
&#x22DD;	\lessgtr	equal to or greater-than	infix	265	5	5
&#x22DE;	\lessgtr	equal to or precedes	infix	265	5	5
&#x22DF;	\lessgtr	equal to or succeeds	infix	265	5	5

⋠	⋈	does not precede or equal	infix	265	5	5
⋡	⋉	does not succeed or equal	infix	265	5	5
⋢	⋊	not square image of or equal to	infix	265	5	5
⋣	⋋	not square original of or equal to	infix	265	5	5
⋤	⋌	square image of or not equal to	infix	265	5	5
⋥	⋍	square original of or not equal to	infix	265	5	5
⋦	⋎	less-than but not equivalent to	infix	265	5	5
⋧	⋏	greater-than but not equivalent to	infix	265	5	5
⋨	⋐	precedes but not equivalent to	infix	265	5	5
⋩	⋑	succeeds but not equivalent to	infix	265	5	5
⋰	⋒	up right diagonal ellipsis	infix	265	5	5
⋲	⋔	element of with long horizontal stroke	infix	265	5	5
⋳	⋕	element of with vertical bar at end of horizontal stroke	infix	265	5	5
⋴	⋖	small element of with vertical bar at end of horizontal stroke	infix	265	5	5
⋵	⋗	element of with dot above	infix	265	5	5
⋶	⋘	element of with overbar	infix	265	5	5
⋷	⋙	small element of with overbar	infix	265	5	5
⋸	⋚	element of with underbar	infix	265	5	5
⋹	⋛	element of with two horizontal strokes	infix	265	5	5
⋺	⋜	contains with long horizontal stroke	infix	265	5	5
⋻	⋝	contains with vertical bar at end of horizontal stroke	infix	265	5	5
⋼	⋞	small contains with vertical bar at end of horizontal stroke	infix	265	5	5
⋽	⋟	contains with overbar	infix	265	5	5
⋾	⋠	small contains with overbar	infix	265	5	5
⋿	⋡	z notation bag membership	infix	265	5	5
▲	▲	black up-pointing triangle	infix	265	4	4
❘		light vertical bar	infix	265	5	5
⦁	•	z notation spot	infix	265	3	3
⦂	⋮	z notation type colon	infix	265	3	3
⦠	➤	spherical angle opening left	infix	265	3	3
⦡	➦	spherical angle opening up	infix	265	3	3
⦢	↷	turned angle	infix	265	3	3
⦣	⌏	reversed angle	infix	265	3	3
⦤	⌐	angle with underbar	infix	265	3	3
⦥	⌑	reversed angle with underbar	infix	265	3	3
⦦	⌒	oblique angle opening up	infix	265	3	3
⦧	⌓	oblique angle opening down	infix	265	3	3
⦨	⌔	measured angle with open arm ending in arrow pointing up and right	infix	265	3	3
⦩	⌕	measured angle with open arm ending in 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



















































&#x29AF;		measured angle with open arm ending in arrow pointing left and down	infix	265	3	3
&#x29B0;		reversed empty set	infix	265	3	3
&#x29B1;		empty set with overbar	infix	265	3	3
&#x29B2;		empty set with small circle above	infix	265	3	3
&#x29B3;		empty set with right arrow above	infix	265	3	3
&#x29B4;		empty set with left arrow above	infix	265	3	3
&#x29B5;		circle with horizontal bar	infix	265	3	3
&#x29B6;		circled vertical bar	infix	265	4	4
&#x29B7;		circled parallel	infix	265	4	4
&#x29B8;		circled reverse solidus	infix	265	4	4
&#x29B9;		circled perpendicular	infix	265	4	4
&#x29BA;		circle divided by horizontal bar and top half divided by vertical bar	infix	265	4	4
&#x29BB;		circle with superimposed x	infix	265	4	4
&#x29BC;		circled anticlockwise-rotated division sign	infix	265	4	4
&#x29BD;		up arrow through circle	infix	265	4	4
&#x29BE;		circled white bullet	infix	265	4	4
&#x29BF;		circled bullet	infix	265	4	4
&#x29C2;		circle with small circle to the right	infix	265	3	3
&#x29C3;		circle with two horizontal strokes to the right	infix	265	3	3
&#x29C4;		squared rising diagonal slash	infix	265	4	4
&#x29C5;		squared falling diagonal slash	infix	265	4	4
&#x29C6;		squared asterisk	infix	265	4	4
&#x29C7;		squared small circle	infix	265	4	4
&#x29C8;		squared square	infix	265	4	4
&#x29C9;		two joined squares	infix	265	3	3
&#x29CA;		triangle with dot above	infix	265	3	3
&#x29CB;		triangle with underbar	infix	265	3	3
&#x29CC;		s in triangle	infix	265	3	3
&#x29CD;		triangle with serifs at bottom	infix	265	3	3
&#x29CE;		right triangle above left triangle	infix	265	5	5
&#x29CF;		left triangle beside vertical bar	infix	265	5	5
&#x29CF;&#x338;		left triangle beside vertical bar with slash	infix	265	5	5
&#x29D0;		vertical bar beside right triangle	infix	265	5	5
&#x29D0;&#x338;		vertical bar beside right triangle with slash	infix	265	5	5
&#x29D1;		bowtie with left half black	infix	265	5	5
&#x29D2;		bowtie with right half black	infix	265	5	5
&#x29D3;		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
&#x2A7D;&#x338;	⋍/	less-than or slanted equal to with slash	infix	265	5	5
&#x2A7E;	⋎	greater-than or slanted equal to	infix	265	5	5
&#x2A7E;&#x338;	⋎/	greater-than or slanted equal to with slash	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
&#x2AA1;&#x338;	⩺	double nested less-than with slash	infix	265	5	5
&#x2AA2;	⩻	double nested greater-than	infix	265	5	5
&#x2AA2;&#x338;	⩼	double nested greater-than with slash	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	infix	265	5	5






&#x2AC0;		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	infix	265	5	5

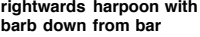

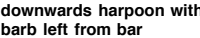




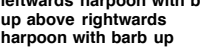
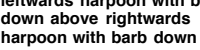
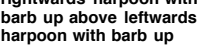
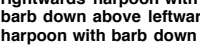
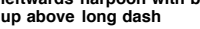
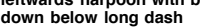
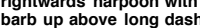
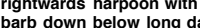
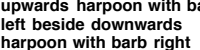
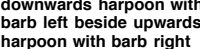
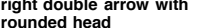
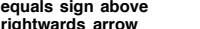
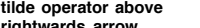

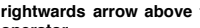
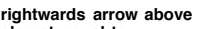
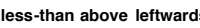

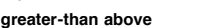
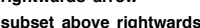














&#x2AF9;	≧	or equal to	infix	265	5	5	
&#x2AFA;	≧	double-line slanted greater-than or equal to	infix	265	5	5	
&#x2AFB;	≡	triple solidus binary relation	infix	265	4	4	
&#x2AFD;	≡	double solidus operator	infix	265	4	4	
&#x2AFE;	||	white vertical bar	infix	265	3	3	
|	|	vertical line	infix	270	2	2	fence, stretchy, symmetric
||	||	multiple character operator: ||	infix	270	2	2	fence, stretchy, symmetric
|||	|||	multiple character operator: |||	infix	270	2	2	fence, stretchy, symmetric
&#x2190;	←	leftwards arrow	infix	270	5	5	stretchy, accent
&#x2191;	↑	upwards arrow	infix	270	5	5	stretchy
&#x2192;	→	rightwards arrow	infix	270	5	5	stretchy, accent
&#x2193;	↓	downwards arrow	infix	270	5	5	stretchy
&#x2194;	↔	left right arrow	infix	270	5	5	stretchy, accent
&#x2195;	↕	up down arrow	infix	270	5	5	stretchy
&#x2196;	↖	north west arrow	infix	270	5	5	stretchy
&#x2197;	↗	north east arrow	infix	270	5	5	stretchy
&#x2198;	↘	south east arrow	infix	270	5	5	stretchy
&#x2199;	↙	south west arrow	infix	270	5	5	stretchy
&#x219A;	↤	leftwards arrow with stroke	infix	270	5	5	accent
&#x219B;	↥	rightwards arrow with stroke	infix	270	5	5	accent
&#x219C;	↞	leftwards wave arrow	infix	270	5	5	stretchy, accent
&#x219D;	↠	rightwards wave arrow	infix	270	5	5	stretchy, accent
&#x219E;	↡	leftwards two headed arrow	infix	270	5	5	stretchy, accent
&#x219F;	↢	upwards two headed arrow	infix	270	5	5	stretchy, accent
&#x21A0;	↣	rightwards two headed arrow	infix	270	5	5	stretchy, accent
&#x21A1;	↧	downwards two headed arrow	infix	270	5	5	stretchy
&#x21A2;	↩	leftwards arrow with tail	infix	270	5	5	stretchy, accent
&#x21A3;	↪	rightwards arrow with tail	infix	270	5	5	stretchy, accent
&#x21A4;	↩	leftwards arrow from bar	infix	270	5	5	stretchy, accent
&#x21A5;	↪	upwards arrow from bar	infix	270	5	5	stretchy
&#x21A6;	↪	rightwards arrow from bar	infix	270	5	5	stretchy, accent
&#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, accent
&#x21AA;	↷	rightwards arrow with hook	infix	270	5	5	stretchy, accent
&#x21AB;	↻	leftwards arrow with loop	infix	270	5	5	stretchy, accent
&#x21AC;	↻	rightwards arrow with loop	infix	270	5	5	stretchy, accent
&#x21AD;	↻	left right wave arrow	infix	270	5	5	stretchy, accent
&#x21AE;	↻	left right arrow with stroke	infix	270	5	5	accent
&#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	infix	270	5	5	accent


↰	↖	arrow	infix	270	5	5	accent
↷	↻	clockwise top semicircle arrow	infix	270	5	5	accent
↸	↖	north west arrow to long bar	infix	270	5	5	
↹	↗	leftwards arrow to bar over rightwards arrow to bar	infix	270	5	5	stretchy, accent
↺	↺	anticlockwise open circle arrow	infix	270	5	5	
↻	↻	clockwise open circle arrow	infix	270	5	5	
↼	↖	leftwards harpoon with barb upwards	infix	270	5	5	stretchy, accent
↽	↗	leftwards harpoon with barb downwards	infix	270	5	5	stretchy, accent
↾	↗	upwards harpoon with barb rightwards	infix	270	5	5	stretchy
↿	↖	upwards harpoon with barb leftwards	infix	270	5	5	stretchy
⇀	↗	rightwards harpoon with barb upwards	infix	270	5	5	stretchy, accent
⇁	↖	rightwards harpoon with barb downwards	infix	270	5	5	stretchy, accent
⇂	↖	downwards harpoon with barb rightwards	infix	270	5	5	stretchy
⇃	↗	downwards harpoon with barb leftwards	infix	270	5	5	stretchy
⇄	↔	rightwards arrow over leftwards arrow	infix	270	5	5	stretchy, accent
⇅	↕	upwards arrow leftwards of downwards arrow	infix	270	5	5	stretchy
⇆	↔	leftwards arrow over rightwards arrow	infix	270	5	5	stretchy, accent
⇇	↔	leftwards paired arrows	infix	270	5	5	stretchy, accent
⇈	↕	upwards paired arrows	infix	270	5	5	stretchy
⇉	↔	rightwards paired arrows	infix	270	5	5	stretchy, accent
⇊	↕	downwards paired arrows	infix	270	5	5	stretchy
⇋	↔	leftwards harpoon over rightwards harpoon	infix	270	5	5	stretchy, accent
⇌	↔	rightwards harpoon over leftwards harpoon	infix	270	5	5	stretchy, accent
⇍	↔	leftwards double arrow with stroke	infix	270	5	5	accent
⇎	↔	left right double arrow with stroke	infix	270	5	5	accent
⇏	↔	rightwards double arrow with stroke	infix	270	5	5	accent
⇐	↔	leftwards double arrow	infix	270	5	5	stretchy, accent
⇑	↕	upwards double arrow	infix	270	5	5	stretchy
⇒	↔	rightwards double arrow	infix	270	5	5	stretchy, accent
⇓	↕	downwards double arrow	infix	270	5	5	stretchy
⇔	↔	left right double arrow	infix	270	5	5	stretchy, accent
⇕	↕	up down double arrow	infix	270	5	5	stretchy
⇖	↖	north west double arrow	infix	270	5	5	stretchy
⇗	↗	north east double arrow	infix	270	5	5	stretchy
⇘	↘	south east double arrow	infix	270	5	5	stretchy
⇙	↙	south west double arrow	infix	270	5	5	stretchy
⇚	↔	leftwards triple arrow	infix	270	5	5	stretchy, accent
⇛	↔	rightwards triple arrow	infix	270	5	5	stretchy, accent
⇜	↔	leftwards squiggle arrow	infix	270	5	5	stretchy, accent
⇝	↔	rightwards squiggle arrow	infix	270	5	5	stretchy, accent
⇞	↕	upwards arrow with double stroke	infix	270	5	5	
⇟	↕	downwards arrow with double stroke	infix	270	5	5	
⇠	↔	leftwards dashed arrow	infix	270	5	5	stretchy, accent
⇡	↕	upwards dashed arrow	infix	270	5	5	stretchy
⇢	↔	rightwards dashed arrow	infix	270	5	5	stretchy, accent
⇣	↕	downwards dashed arrow	infix	270	5	5	stretchy
⇤	↔	leftwards arrow to bar	infix	270	5	5	stretchy, accent



























⇥	→	rightwards arrow to bar	infix	270	5	5	stretchy, accent
⇦	←	leftwards white arrow	infix	270	5	5	stretchy, accent
⇧	↑	upwards white arrow	infix	270	5	5	stretchy
⇨	⇒	rightwards white arrow	infix	270	5	5	stretchy, accent
⇩	↓	downwards white arrow	infix	270	5	5	stretchy
⇪	↑	upwards white arrow from bar	infix	270	5	5	stretchy
⇫	↑	upwards white arrow on pedestal	infix	270	5	5	stretchy
⇬	↑	upwards white arrow on pedestal with horizontal bar	infix	270	5	5	stretchy
⇭	↑	upwards white arrow on pedestal with vertical bar	infix	270	5	5	stretchy
⇮	⇧	upwards white double arrow	infix	270	5	5	stretchy
⇯	⇧	upwards white double arrow on pedestal	infix	270	5	5	stretchy
⇰	⇒	rightwards white arrow from wall	infix	270	5	5	stretchy, accent
⇱	↖	north west arrow to corner	infix	270	5	5	
⇲	↘	south east arrow to corner	infix	270	5	5	
⇳	⇕	up down white arrow	infix	270	5	5	stretchy
⇴	→●	right arrow with small circle	infix	270	5	5	accent
⇵	⇕	downwards arrow leftwards of upwards arrow	infix	270	5	5	stretchy
⇶	→→→	three rightwards arrows	infix	270	5	5	stretchy, accent
⇷	←	leftwards arrow with vertical stroke	infix	270	5	5	accent
⇸	→	rightwards arrow with vertical stroke	infix	270	5	5	accent
⇹	← →	left right arrow with vertical stroke	infix	270	5	5	accent
⇺	←	leftwards arrow with double vertical stroke	infix	270	5	5	accent
⇻	→	rightwards arrow with double vertical stroke	infix	270	5	5	accent
⇼	← →	left right arrow with double vertical stroke	infix	270	5	5	accent
⇽	⇨	leftwards open-headed arrow	infix	270	5	5	stretchy, accent
⇾	⇩	rightwards open-headed arrow	infix	270	5	5	stretchy, accent
⇿	⇨⇩	left right open-headed arrow	infix	270	5	5	stretchy, accent
⊸	⇨	multimap	infix	270	5	5	
⟰	⇨⇨⇨⇨	upwards quadruple arrow	infix	270	5	5	stretchy
⟱	⇩⇩⇩⇩	downwards quadruple arrow	infix	270	5	5	stretchy
⟵	⇨	long leftwards arrow	infix	270	5	5	stretchy, accent
⟶	⇨	long rightwards arrow	infix	270	5	5	stretchy, accent
⟷	⇨	long left right arrow	infix	270	5	5	stretchy, accent
⟸	⇨⇨	long leftwards double arrow	infix	270	5	5	stretchy, accent
⟹	⇨⇨	long rightwards double arrow	infix	270	5	5	stretchy, accent
⟺	⇨⇨	long left right double arrow	infix	270	5	5	stretchy, accent
⟻	⇨	long leftwards arrow from bar	infix	270	5	5	stretchy, accent
⟼	⇨	long rightwards arrow from bar	infix	270	5	5	stretchy, accent
⟽	⇨	long leftwards double arrow from bar	infix	270	5	5	stretchy, accent
⟾	⇨	long rightwards double arrow from bar	infix	270	5	5	stretchy, accent
⟿	⇨	long rightwards squiggle arrow	infix	270	5	5	stretchy, accent
⤀	⇨	rightwards two-headed arrow with vertical stroke	infix	270	5	5	accent
⤁	⇨	rightwards two-headed arrow with double vertical stroke	infix	270	5	5	accent
⤂	⇨	leftwards double arrow with vertical stroke	infix	270	5	5	accent
⤃	⇨	rightwards double arrow with vertical stroke	infix	270	5	5	accent
⤄	⇨	left right double arrow with vertical stroke	infix	270	5	5	accent
⤅	⇨	rightwards two-headed arrow	infix	270	5	5	accent

&#x2903;	from bar	infix	270	5	5	accent
&#x2906;	leftwards double arrow from bar	infix	270	5	5	accent
&#x2907;	rightwards double arrow from bar	infix	270	5	5	accent
&#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, accent
&#x290D;	rightwards double dash arrow	infix	270	5	5	stretchy, accent
&#x290E;	leftwards triple dash arrow	infix	270	5	5	stretchy, accent
&#x290F;	rightwards triple dash arrow	infix	270	5	5	stretchy, accent
&#x2910;	rightwards two-headed triple dash arrow	infix	270	5	5	stretchy, accent
&#x2911;	rightwards arrow with dotted stem	infix	270	5	5	accent
&#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	accent
&#x2915;	rightwards arrow with tail with double vertical stroke	infix	270	5	5	accent
&#x2916;	rightwards two-headed arrow with tail	infix	270	5	5	accent
&#x2917;	rightwards two-headed arrow with tail with vertical stroke	infix	270	5	5	accent
&#x2918;	rightwards two-headed arrow with tail with double vertical stroke	infix	270	5	5	accent
&#x2919;	leftwards arrow-tail	infix	270	5	5	accent
&#x291A;	rightwards arrow-tail	infix	270	5	5	accent
&#x291B;	leftwards double arrow-tail	infix	270	5	5	accent
&#x291C;	rightwards double arrow-tail	infix	270	5	5	accent
&#x291D;	leftwards arrow to black diamond	infix	270	5	5	accent
&#x291E;	rightwards arrow to black diamond	infix	270	5	5	accent
&#x291F;	leftwards arrow from bar to black diamond	infix	270	5	5	accent
&#x2920;	rightwards arrow from bar to black diamond	infix	270	5	5	accent
&#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	
&#x2932;	north west arrow crossing	infix	270	5	5	

⤲	north east arrow	infix	270	5	5	
⤳	wave arrow pointing directly right	infix	270	5	5	accent
⤴	 arrow pointing rightwards then curving upwards	infix	270	5	5	
⤵	 arrow pointing rightwards then curving downwards	infix	270	5	5	
⤶	 arrow pointing downwards then curving leftwards	infix	270	5	5	
⤷	 arrow pointing downwards then curving rightwards	infix	270	5	5	
⤸	right-side arc clockwise arrow	infix	270	5	5	
⤹	 left-side arc anticlockwise arrow	infix	270	5	5	
⤺	top arc anticlockwise arrow	infix	270	5	5	accent
⤻	bottom arc anticlockwise arrow	infix	270	5	5	accent
⤼	top arc clockwise arrow with minus	infix	270	5	5	accent
⤽	top arc anticlockwise arrow with plus	infix	270	5	5	accent
⤾	lower right semicircular clockwise arrow	infix	270	5	5	
⤿	lower left semicircular anticlockwise arrow	infix	270	5	5	
⥀	anticlockwise closed circle arrow	infix	270	5	5	
⥁	clockwise closed circle arrow	infix	270	5	5	
⥂	rightwards arrow above short leftwards arrow	infix	270	5	5	accent
⥃	leftwards arrow above short rightwards arrow	infix	270	5	5	accent
⥄	short rightwards arrow above leftwards arrow	infix	270	5	5	accent
⥅	rightwards arrow with plus below	infix	270	5	5	accent
⥆	leftwards arrow with plus below	infix	270	5	5	accent
⥇	rightwards arrow through x	infix	270	5	5	accent
⥈	left right arrow through small circle	infix	270	5	5	accent
⥉	upwards two-headed arrow from small circle	infix	270	5	5	
⥊	left barb up right barb down harpoon	infix	270	5	5	accent
⥋	left barb down right barb up harpoon	infix	270	5	5	accent
⥌	up barb right down barb left harpoon	infix	270	5	5	
⥍	up barb left down barb right harpoon	infix	270	5	5	
⥎	left barb up right barb up harpoon	infix	270	5	5	stretchy, accent
⥏	up barb right down barb right harpoon	infix	270	5	5	stretchy
⥐	left barb down right barb down harpoon	infix	270	5	5	stretchy, accent
⥑	up barb left down barb left harpoon	infix	270	5	5	stretchy
⥒	leftwards harpoon with barb up to bar	infix	270	5	5	stretchy, accent
⥓	rightwards harpoon with barb up to bar	infix	270	5	5	stretchy, accent
⥔	upwards harpoon with barb right to bar	infix	270	5	5	stretchy
⥕	downwards harpoon with barb right to bar	infix	270	5	5	stretchy
⥖	leftwards harpoon with barb down to bar	infix	270	5	5	stretchy
⥗	rightwards harpoon with barb down to bar	infix	270	5	5	stretchy
⥘	upwards harpoon with barb left to bar	infix	270	5	5	stretchy
⥙	downwards harpoon with barb left to bar	infix	270	5	5	stretchy
⥚	leftwards harpoon with barb up from bar	infix	270	5	5	stretchy, accent
⥛	rightwards harpoon with barb up from bar	infix	270	5	5	stretchy, accent
⥜	upwards harpoon with barb right from bar	infix	270	5	5	stretchy
⥝	downwards harpoon with barb right from bar	infix	270	5	5	stretchy
⥞	leftwards harpoon with barb down from bar	infix	270	5	5	stretchy, accent

&#x295F;		infix	270	5	5	stretchy, accent
&#x2960;		infix	270	5	5	stretchy
&#x2961;		infix	270	5	5	stretchy
&#x2962;		infix	270	5	5	accent
&#x2963;		infix	270	5	5	
&#x2964;		infix	270	5	5	accent
&#x2965;		infix	270	5	5	
&#x2966;		infix	270	5	5	accent
&#x2967;		infix	270	5	5	accent
&#x2968;		infix	270	5	5	accent
&#x2969;		infix	270	5	5	accent
&#x296A;		infix	270	5	5	accent
&#x296B;		infix	270	5	5	accent
&#x296C;		infix	270	5	5	accent
&#x296D;		infix	270	5	5	accent
&#x296E;		infix	270	5	5	stretchy
&#x296F;		infix	270	5	5	stretchy
&#x2970;		infix	270	5	5	accent
&#x2971;		infix	270	5	5	accent
&#x2972;		infix	270	5	5	accent
&#x2973;		infix	270	5	5	accent
&#x2974;		infix	270	5	5	accent
&#x2975;		infix	270	5	5	accent
&#x2976;		infix	270	5	5	accent
&#x2977;		infix	270	5	5	accent
&#x2978;		infix	270	5	5	accent
&#x2979;		infix	270	5	5	accent
&#x297A;		infix	270	5	5	accent
&#x297B;		infix	270	5	5	accent
&#x297C;		infix	270	5	5	accent
&#x297D;		infix	270	5	5	accent
&#x297E;		infix	270	5	5	
&#x297F;		infix	270	5	5	
&#x2999;		infix	270	3	3	
&#x299A;		infix	270	3	3	
&#x299B;		infix	270	3	3	
&#x299C;		infix	270	3	3	
&#x299D;		infix	270	3	3	
&#x299E;		infix	270	3	3	
&#x299F;		infix	270	3	3	
&#x29DF;		infix	270	3	3	

&#x29EF;		error-barred black square	infix	270	3	3	
&#x29F4;	\Rightarrow	rule-delayed	infix	270	5	5	
&#x2B45;	\Leftarrow	leftwards quadruple arrow	infix	270	5	5	stretchy
&#x2B46;	\Rightarrow	rightwards quadruple arrow	infix	270	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;	\pm	plus-minus sign	infix	275	4	4	
&#xB1;	\pm	plus-minus sign	prefix	275	0	1	
&#x2212;	$-$	minus sign	infix	275	4	4	
&#x2212;	$-$	minus sign	prefix	275	0	1	
&#x2213;	\mp	minus-or-plus sign	infix	275	4	4	
&#x2213;	\mp	minus-or-plus sign	prefix	275	0	1	
&#x2214;	$\dot{+}$	dot plus	infix	275	4	4	
&#x229E;	\boxplus	squared plus	infix	275	4	4	
&#x229F;	\boxminus	squared minus	infix	275	4	4	
&#x2211;	Σ	n-ary summation	prefix	290	1	2	largeop, movablelimits, symmetric
&#x2A0A;	Σ	modulo two sum	prefix	290	1	2	largeop, movablelimits, symmetric
&#x2A0B;	\int	summation with integral	prefix	290	1	2	largeop, symmetric
&#x222C;	\iint	double integral	prefix	300	0	1	largeop, symmetric
&#x222D;	\iiint	triple integral	prefix	300	0	1	largeop, symmetric
&#x2295;	\oplus	circled plus	infix	300	4	4	
&#x2296;	\ominus	circled minus	infix	300	4	4	
&#x2298;	\oslash	circled division slash	infix	300	4	4	
&#x2A01;	\oplus	n-ary circled plus operator	prefix	300	1	2	largeop, movablelimits, symmetric
&#x222B;	\int	integral	prefix	310	0	1	largeop, symmetric
&#x222E;	\oint	contour integral	prefix	310	0	1	largeop, symmetric
&#x222F;	\oiint	surface integral	prefix	310	0	1	largeop, symmetric
&#x2230;	\iiint	volume integral	prefix	310	0	1	largeop, symmetric
&#x2231;	\int	clockwise integral	prefix	310	0	1	largeop, symmetric
&#x2232;	\oint	clockwise contour integral	prefix	310	0	1	largeop, symmetric
&#x2233;	\oint	anticlockwise contour integral	prefix	310	0	1	largeop, symmetric
&#x2A0C;	\iiint	quadruple integral operator	prefix	310	0	1	largeop, symmetric
&#x2A0D;	\int	finite part integral	prefix	310	1	2	largeop, symmetric
&#x2A0E;	\int	integral with double stroke	prefix	310	1	2	largeop, symmetric
&#x2A0F;	\int	integral average with slash	prefix	310	1	2	largeop, symmetric
&#x2A10;	\oint	circulation function	prefix	310	1	2	largeop, movablelimits, symmetric
&#x2A11;	\oint	anticlockwise integration	prefix	310	1	2	largeop, movablelimits, symmetric
&#x2A12;	\int	line integration with rectangular path around pole	prefix	310	1	2	largeop, movablelimits, symmetric
&#x2A13;	\int	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
&#x22C0;		n-ary logical and	prefix	330	1	2	largeop, movablelimits, symmetric
&#x22C1;		n-ary logical or	prefix	330	1	2	largeop, movablelimits, symmetric
&#x22C2;		n-ary intersection	prefix	330	1	2	largeop, movablelimits, symmetric
&#x2A00;		n-ary circled dot operator	prefix	330	1	2	largeop, movablelimits, symmetric
&#x2A02;		n-ary circled times operator	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
&#x2A07;		two logical and operator	prefix	330	1	2	largeop, movablelimits, symmetric
&#x2A08;		two logical or operator	prefix	330	1	2	largeop, movablelimits, symmetric
&#x2A09;		n-ary times 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,

&#x2210;	∏	n-ary coproduct	prefix	350	1	2	symmetric 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	
&#x22C5;	·	dot operator	infix	390	4	4	
&#x2A2F;	×	vector or cross product	infix	390	4	4	
&#x2A3F;	∏	amalgamation or coproduct	infix	390	4	4	
&#xB7;	·	middle dot	infix	400	4	4	
&#x2297;	⊗	circled times	infix	410	4	4	
%	%	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	
&#x2202;	∂	partial differential	prefix	740	2	1	
&#x2207;	∇	nabla	prefix	740	2	1	
**	**	multiple character operator: **	infix	780	1	1	
&lt; >	◊ ◊	multiple character operator: ◊ ◊	infix	780	1	1	
^	^	circumflex accent	infix	780	1	1	
&#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	
//	//	multiple character operator: //	infix	820	1	1	
@	@	commercial at	infix	825	1	1	
?	?	question mark	infix	835	1	1	
&#x2145;	℞	double-struck italic capital d	prefix	845	2	1	stretchy
&#x2146;	ℓ	double-struck italic small d	prefix	845	2	0	
&#x221A;	√	square root	prefix	845	1	1	
&#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	
++	++	multiple character operator: ++	postfix	880	0	0	
		multiple character operator: -	postfix	880	0	0	

accent

--	--	.	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
¨	¨	diaeresis	postfix 880	0	0	accent
¯	¯	macron	postfix 880	0	0	stretchy, accent
°	°	degree sign	postfix 880	0	0	
´	´	acute accent	postfix 880	0	0	accent
¸	¸	cedilla	postfix 880	0	0	accent
ˆ	ˆ	modifier letter circumflex accent	postfix 880	0	0	stretchy, accent
ˇ	ˇ	caron	postfix 880	0	0	stretchy, accent
ˉ	¯	modifier letter macron	postfix 880	0	0	stretchy, accent
ˊ	´	modifier letter acute accent	postfix 880	0	0	accent
ˋ	`	modifier letter grave accent	postfix 880	0	0	accent
ˍ	˘	modifier letter low macron	postfix 880	0	0	stretchy, accent
˘	˘	breve	postfix 880	0	0	accent
˙	˙	dot above	postfix 880	0	0	accent
˚	˚	ring above	postfix 880	0	0	accent
˜	˜	small tilde	postfix 880	0	0	stretchy, accent
˝	¨	double acute accent	postfix 880	0	0	accent
˷	˘	modifier letter low tilde	postfix 880	0	0	stretchy, accent
̂	ˆ	combining circumflex accent	postfix 880	0	0	stretchy, accent
̑	˘	combining inverted breve	postfix 880	0	0	accent
‾	¯	overline	postfix 880	0	0	stretchy, accent
⁤	□	invisible plus	infix 880	0	0	
⃛	—	combining three dots above	postfix 880	0	0	accent
⃜	—	combining four dots above	postfix 880	0	0	accent
⎴		top square bracket	postfix 880	0	0	stretchy, accent
⎵		bottom square bracket	postfix 880	0	0	stretchy, accent
⏜		top parenthesis	postfix 880	0	0	stretchy, accent
⏝		bottom parenthesis	postfix 880	0	0	stretchy, accent
⏞		top curly bracket	postfix 880	0	0	stretchy, accent
⏟		bottom curly bracket	postfix 880	0	0	stretchy, accent
⏠		top tortoise shell bracket	postfix 880	0	0	stretchy, accent
⏡		bottom tortoise shell bracket	postfix 880	0	0	stretchy, accent
—	—	low line	infix 900	1	1	

Overview: [Mathematical Markup Language \(MathML\) Version 3.0](#)

Previous: B [Media Types Registrations](#)

Next: D [Glossary](#)