

# Supplemental Mathematical Operators

**Supplemental Mathematical Operators** is a Unicode block containing various mathematical symbols, including N-ary operators, summations and integrals, intersections and unions, logical and relational operators, and subset/superset relations.

Contents

Block

Variation sequences

History

See also

References

Supplemental Mathematical Operators	
Range	U+2A00..U+2AFF (256 code points)
Plane	BMP
Scripts	Common
Assigned	256 code points
Unused	0 reserved code points
Unicode version history	
3.2 (2002)	256 (+256)
Chart	
Code chart ( <a href="https://www.unicode.org/charts/PDF/U2A00.pdf">https://www.unicode.org/charts/PDF/U2A00.pdf</a> )	
Note: <sup>[1]</sup> <sup>[2]</sup>	

## Block

Supplemental Mathematical Operators <sup>[1]</sup>																
Official Unicode Consortium code chart ( <a href="https://www.unicode.org/charts/PDF/U2A00.pdf">https://www.unicode.org/charts/PDF/U2A00.pdf</a> ) (PDF)																
	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
U+2A0x	<span>⊙</span>	<span>⊕</span>	<span>⊗</span>	<span>⋈</span>	<span>⋇</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>
U+2A1x	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>
U+2A2x	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>
U+2A3x	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>
U+2A4x	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>
U+2A5x	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>
U+2A6x	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>
U+2A7x	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>
U+2A8x	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>
U+2A9x	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>
U+2AAx	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>
U+2ABx	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>
U+2ACx	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>
U+2ADx	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>
U+2AEx	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>
U+2AFx	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>	<span>⋈</span>
Notes																
1.^ As of Unicode version 14.0																

## Variation sequences

The Supplemental Mathematical Operators block has eight variation sequences defined for standardized variants.<sup>[3]</sup><sup>[4]</sup> They use U+FE00 VARIATION SELECTOR-1 (VS01) to denote variant symbols (depending on the font):

Variation sequences			
Base character	Base	+VS01	Description
U+2A3C INTERIOR PRODUCT	<span>⌋</span>	<span>⌋</span>	tall variant with narrow foot
U+2A3D RIGHTHAND INTERIOR PRODUCT	<span>⌌</span>	<span>⌌</span>	tall variant with narrow foot
U+2A9D SIMILAR OR LESS-THAN	<span>≲</span>	<span>≲</span>	with similar following the slant of the upper leg
U+2A9E SIMILAR OR GREATER-THAN	<span>≳</span>	<span>≳</span>	with similar following the slant of the upper leg
U+2AAC SMALLER THAN OR EQUAL TO	<span>⩽</span>	<span>⩽</span>	with slanted equal
U+2AAD LARGER THAN OR EQUAL TO	<span>⩾</span>	<span>⩾</span>	with slanted equal
U+2ACB SUBSET OF ABOVE NOT EQUAL TO	<span>⊈</span>	<span>⊈</span>	with stroke through bottom members
U+2ACC SUPERSET OF ABOVE NOT EQUAL TO	<span>⊉</span>	<span>⊉</span>	with stroke through bottom members

History

The following Unicode-related documents record the purpose and process of defining specific characters in the Supplemental Mathematical Operators block:

Version	Final code points <sup>[a]</sup>	Count	L2 ID	WG2 ID
3.2	U+2A00..2A6D, 2A6F..2AF6	246	<a href="https://www.unicode.org/L2/L2000/00119-math.pdf">L2/00-119 (https://www.unicode.org/L2/L2000/00119-math.pdf)</a> <sup>[b]</sup>	<a href="https://www.unicode.org/wg2/docs/n2191r">N2191R (https://www.unicode.org/wg2/docs/n2191r)</a>
			<a href="https://www.unicode.org/L2/L2000/00234-n2203m.pdf">L2/00-234 (https://www.unicode.org/L2/L2000/00234-n2203m.pdf)</a>	<a href="https://www.unicode.org/wg2/docs/n2203r">N2203 (rtf (https://www.unicode.org/wg2/docs/n2203r), txt (https://www.unicode.org/wg2/docs/n2203.txt))</a>
			<a href="https://www.unicode.org/L2/L2000/00115.htm">L2/00-115R2 (https://www.unicode.org/L2/L2000/00115.htm)</a>	
			<a href="https://www.unicode.org/L2/L2001/01012.htm">L2/01-012R (https://www.unicode.org/L2/L2001/01012.htm)</a>	
			<a href="https://www.unicode.org/L2/L2001/01342-10646-1-FPDAM1-comment.pdf">L2/01-342 (https://www.unicode.org/L2/L2001/01342-10646-1-FPDAM1-comment.pdf)</a>	
	U+2A6E, 2AF7..2AFF	10	<a href="https://www.unicode.org/L2/L2001/01142-N2336-Mathadd9.pdf">L2/01-142 (https://www.unicode.org/L2/L2001/01142-N2336-Mathadd9.pdf)</a> <sup>[b]</sup>	<a href="https://www.unicode.org/wg2/docs/n2336r">N2336 (https://www.unicode.org/wg2/docs/n2336r)</a>
			<a href="https://www.unicode.org/L2/L2001/01156-n2356-mathadd10.pdf">L2/01-156 (https://www.unicode.org/L2/L2001/01156-n2356-mathadd10.pdf)</a>	<a href="https://www.unicode.org/wg2/docs/n2356r">N2356 (https://www.unicode.org/wg2/docs/n2356r)</a>
			<a href="https://www.unicode.org/L2/L2001/01344-n2353.pdf">L2/01-344 (https://www.unicode.org/L2/L2001/01344-n2353.pdf)</a>	<a href="https://www.unicode.org/wg2/docs/n2353r">N2353 (pdf (https://www.unicode.org/wg2/docs/n2353r), doc (https://www.unicode.org/wg2/docs/n2353.doc))</a>

a. Proposed code points and characters names may differ from final code points and names  
b. Refer to the [history section](#) of the Miscellaneous Mathematical Symbols-B block for additional math-related documents

See also

- Mathematical operators and symbols in Unicode

References

1. ["Unicode character database"](https://www.unicode.org) (<https://www.unicode.org>). *The Unicode Standard*. Retrieved 2016-07-09.
2. ["Enumerated Versions of The Unicode Standard"](https://www.unicode.org/versions/enumeratedversions.html) (<https://www.unicode.org/versions/enumeratedversions.html>). *The Unicode Standard*. Retrieved 2016-07-09.
3. ["Unicode Character Database: Standardized Variation Sequences"](https://www.unicode.org/Public/UNIDATA/StandardizedVariants.txt) (<https://www.unicode.org/Public/UNIDATA/StandardizedVariants.txt>). The Unicode Consortium.
4. Whistler, Ken; Freytag, Asmus (2000-04-19), "Symbol variants defined using a Variation Selector", *L2/00-119: Encoding Additional Mathematical Symbols in Unicode* (<https://www.unicode.org/L2/L2000/00119-math.pdf>) (PDF)

---

Retrieved from "[https://en.wikipedia.org/w/index.php?title=Supplemental\\_Mathematical\\_Operators&oldid=1074057923](https://en.wikipedia.org/w/index.php?title=Supplemental_Mathematical_Operators&oldid=1074057923)"

---

This page was last edited on 26 February 2022, at 05:27 (UTC).

Text is available under the Creative Commons Attribution-ShareAlike License 3.0; additional terms may apply. By using this site, you agree to the Terms of Use and Privacy Policy. Wikipedia® is a registered trademark of the Wikimedia Foundation, Inc., a non-profit organization.