

Miscellaneous Mathematical Symbols-A

Range: 27C0–27EF

This chart contains an excerpt from the character code tables and list of character names for *The Unicode Standard, Version 18.0 BETA REVIEW DRAFT*

This file will not be updated with errata, or when additional characters are assigned to the Unicode Standard.

See <https://www.unicode.org/errata/> for an up-to-date list of errata.

See <https://www.unicode.org/charts/> for access to a complete list of the latest character code charts. See <https://www.unicode.org/charts/PDF/Unicode-18.0/> for charts showing only the characters added in Unicode 18.0. See <https://www.unicode.org/Public/18.0.0/charts/> for a complete set of character code charts for Unicode 18.0. See <https://www.unicode.org/Public/18.0.0/charts/About.html#Conventions> for conventions used in these code charts, and other general information.

Disclaimer

These charts are provided as the online reference to the character contents of the Unicode Standard, Version 18.0 but do not provide all the information needed to fully support individual scripts using the Unicode Standard. For a complete understanding of the use of the characters contained in this file, please consult the appropriate sections of The Unicode Standard, Version 18.0, online at:

<https://www.unicode.org/versions/Unicode18.0.0/>

Fonts

The shapes of the reference glyphs used in these code charts are not prescriptive. Considerable variation is to be expected in actual fonts.

See <https://www.unicode.org/charts/fonts.html> for a list.

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

































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	27C	27D	27E
0	 27C0	 27D0	 27E0
1	 27C1	 27D1	 27E1
2	 27C2	 27D2	 27E2
3	 27C3	 27D3	 27E3
4	 27C4	 27D4	 27E4
5	 27C5	 27D5	 27E5
6	 27C6	 27D6	 27E6
7	 27C7	 27D7	 27E7
8	 27C8	 27D8	 27E8
9	 27C9	 27D9	 27E9
A	 27CA	 27DA	 27EA
B	 27CB	 27DB	 27EB
C	 27CC	 27DC	 27EC
D	 27CD	 27DD	 27ED
E	 27CE	 27DE	 27EE
F	 27CF	 27DF	 27EF

Miscellaneous symbols

- 27C0 \sphericalangle THREE DIMENSIONAL ANGLE
 • used by Euclid
- 27C1 \triangle WHITE TRIANGLE CONTAINING SMALL WHITE TRIANGLE
 • used by Euclid
- 27C2 \perp PERPENDICULAR
 = orthogonal to
 • relation, typeset with additional spacing
 → 22A5 \perp up tack
- 27C3 \subsetneq OPEN SUBSET
- 27C4 \supsetneq OPEN SUPERSET

Paired punctuation

- 27C5 $\{$ LEFT S-SHAPED BAG DELIMITER
- 27C6 $\}$ RIGHT S-SHAPED BAG DELIMITER

Operator

- 27C7 \vee OR WITH DOT INSIDE
 → 2228 \vee logical or
 → 228D \cup multiset multiplication
 → 27D1 \wedge and with dot

Miscellaneous symbols

- 27C8 \sphericalrcorner REVERSE SOLIDUS PRECEDING SUBSET
- 27C9 \sphericalleftarrow SUPERSET PRECEDING SOLIDUS

Vertical line operator

- 27CA \dagger VERTICAL BAR WITH HORIZONTAL STROKE
 → 2AF2 $\#$ parallel with horizontal stroke
 → 2AF5 $\#\#$ triple vertical bar with horizontal stroke

Miscellaneous symbol

- 27CB \diagup MATHEMATICAL RISING DIAGONAL
 = `\diagup`
 → 2215 $/$ division slash

Division operator

- 27CC $)$ LONG DIVISION
 • graphically extends over the dividend
 → 00F7 \div division sign
 → 2215 $/$ division slash
 → 221A $\sqrt{\quad}$ square root

Miscellaneous symbol

- 27CD \diagdown MATHEMATICAL FALLING DIAGONAL
 = `\diagdown`
 → 2216 \setminus set minus
 → 29F5 \setminus reverse solidus operator

Operators

- 27CE \boxtimes SQUARED LOGICAL AND
 = box min
 • morphological min product operator
 • morphological erosion operator
 • additive minimum operator
- 27CF \boxplus SQUARED LOGICAL OR
 = box max
 • morphological max product operator
 • morphological dilation operator
 • additive maximum operator

Miscellaneous symbol

- 27D0 \diamond WHITE DIAMOND WITH CENTRED DOT
 → 1F4A0 \diamond diamond shape with a dot inside

Operators

- 27D1 \wedge AND WITH DOT
 → 2227 \wedge logical and
 → 27C7 \vee or with dot inside
 → 2A40 \cap intersection with dot
- 27D2 \updownarrow ELEMENT OF OPENING UPWARDS
 → 2AD9 \updownarrow element of opening downwards
- 27D3 \lrcorner LOWER RIGHT CORNER WITH DOT
 = pullback
 → 230B \lfloor right floor
- 27D4 \ulcorner UPPER LEFT CORNER WITH DOT
 = pushout
 → 2308 \lceil left ceiling

Database theory operators

- 27D5 \bowtie LEFT OUTER JOIN
- 27D6 \bowtie RIGHT OUTER JOIN
- 27D7 \bowtie FULL OUTER JOIN
 → 2A1D \bowtie join

Tacks and turnstiles

- 27D8 \uparrow LARGE UP TACK
 → 22A5 \uparrow up tack
- 27D9 \downarrow LARGE DOWN TACK
 → 22A4 \downarrow down tack
- 27DA \rightleftharpoons LEFT AND RIGHT DOUBLE TURNSTILE
 → 22A8 \rightleftharpoons true
 → 2AE4 \rightleftharpoons vertical bar double left turnstile
- 27DB \rightleftharpoons LEFT AND RIGHT TACK
 → 22A2 \rightleftharpoons right tack
- 27DC \multimap LEFT MULTIMAP
 → 22B8 \multimap multimap
- 27DD \longmapsto LONG RIGHT TACK
 → 22A2 \longmapsto right tack
- 27DE \longleftarrow LONG LEFT TACK
 → 22A3 \longleftarrow left tack
- 27DF \upharpoonright UP TACK WITH CIRCLE ABOVE
 = radial component
 → 2AF1 \downharpoonright down tack with circle below

Modal logic operators

- 27E0 \lozenge LOZENGE DIVIDED BY HORIZONTAL RULE
 • used as form of possibility in modal logic
 → 25CA \lozenge lozenge
- 27E1 \diamond WHITE CONCAVE-SIDED DIAMOND
 = never (modal operator)
 → 25C7 \diamond white diamond
- 27E2 \diamondleftarrow WHITE CONCAVE-SIDED DIAMOND WITH LEFTWARDS TICK
 = was never (modal operator)
- 27E3 \diamondrightarrow WHITE CONCAVE-SIDED DIAMOND WITH RIGHTWARDS TICK
 = will never be (modal operator)
- 27E4 \squareleftarrow WHITE SQUARE WITH LEFTWARDS TICK
 = was always (modal operator)
 → 25A1 \square white square
 → 25FB \square white medium square
- 27E5 \squaresquarerightarrow WHITE SQUARE WITH RIGHTWARDS TICK
 = will always be (modal operator)

Mathematical brackets

These bracket characters are also used as punctuation outside of a mathematical context.

- 27E6 \llcorner MATHEMATICAL LEFT WHITE SQUARE BRACKET
= z notation left bag bracket
→ 301A \llcorner left white square bracket
- 27E7 \lrcorner MATHEMATICAL RIGHT WHITE SQUARE BRACKET
= z notation right bag bracket
→ 301B \lrcorner right white square bracket
- 27E8 \langle MATHEMATICAL LEFT ANGLE BRACKET
= bra
= z notation left sequence bracket
→ 2329 \langle left-pointing angle bracket
→ 3008 \langle left angle bracket
- 27E9 \rangle MATHEMATICAL RIGHT ANGLE BRACKET
= ket
= z notation right sequence bracket
→ 232A \rangle right-pointing angle bracket
→ 3009 \rangle right angle bracket
- 27EA $\langle\langle$ MATHEMATICAL LEFT DOUBLE ANGLE BRACKET
= z notation left chevron bracket
→ 300A $\langle\langle$ left double angle bracket
- 27EB $\rangle\rangle$ MATHEMATICAL RIGHT DOUBLE ANGLE BRACKET
= z notation right chevron bracket
→ 300B $\rangle\rangle$ right double angle bracket
- 27EC \lceil MATHEMATICAL LEFT WHITE TORTOISE SHELL BRACKET
→ 2997 \lceil left black tortoise shell bracket
→ 3018 \lceil left white tortoise shell bracket
- 27ED \rceil MATHEMATICAL RIGHT WHITE TORTOISE SHELL BRACKET
→ 2998 \rceil right black tortoise shell bracket
→ 3019 \rceil right white tortoise shell bracket
- 27EE $($ MATHEMATICAL LEFT FLATTENED PARENTHESIS
= lgroup
- 27EF $)$ MATHEMATICAL RIGHT FLATTENED PARENTHESIS
= rgroup