Mathematical Operators

Range: 2200–22FF

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ISO/IEC DIS 10646:2026(en) - 7th Edition Draft

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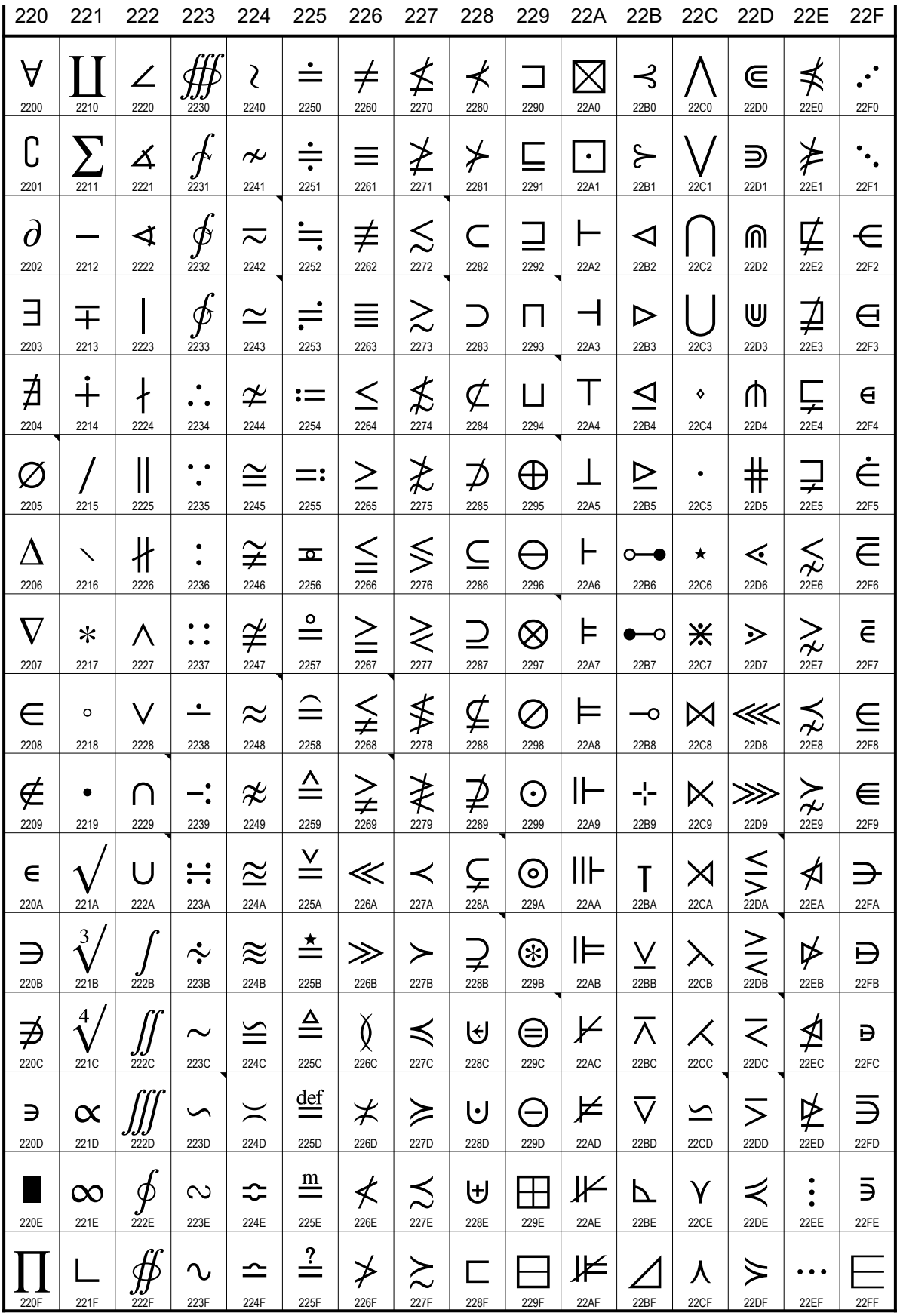

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Miscellaneous mathematical symbols

2200 ∀ FOR ALL
= universal quantifier
2201 ∁ COMPLEMENT
→ 0297 ʗ latin letter stretched c
2202 ∂ PARTIAL DIFFERENTIAL
2203 ∃ THERE EXISTS
= existential quantifier
2204 ∄ THERE DOES NOT EXIST
≡ 2203 ∃ 0338 ◌̸
2205 ∅ EMPTY SET
= null set
• used in linguistics to indicate a null morpheme or phonological "zero"
→ 00D8 Ø latin capital letter o with stroke
→ 2300 ⌀ diameter sign
~ 2205 FE00 Ø zero with long diagonal stroke overlay form
2206 ∆ INCREMENT
= Laplace operator
= forward difference
= symmetric difference (in set theory)
• other symbols may also be used for symmetric difference
→ 0394 Δ greek capital letter delta
→ 25B3 △ white up-pointing triangle
2207 ∇ NABLA
= backward difference
= gradient, del
• used for Laplacian operator (written with superscript 2)
→ 25BD ▽ white down-pointing triangle

Set membership

2208 ∈ ELEMENT OF
2209 ∉ NOT AN ELEMENT OF
≡ 2208 ∈ 0338 ◌̸
220A ∊ SMALL ELEMENT OF
• originates in math pi fonts; not the straight epsilon
→ 03F5 ϵ greek lunate epsilon symbol
220B ∋ CONTAINS AS MEMBER
= such that
220C ∌ DOES NOT CONTAIN AS MEMBER
≡ 220B ∋ 0338 ◌̸
220D ∍ SMALL CONTAINS AS MEMBER
→ 03F6 ϶ greek reversed lunate epsilon symbol

Miscellaneous mathematical symbol

220E ∎ END OF PROOF
= q.e.d.
→ 2023 ‣ triangular bullet
→ 25AE ▮ black vertical rectangle

N-ary operators

220F ∏ N-ARY PRODUCT
= product sign
→ 03A0 Π greek capital letter pi
2210 ∐ N-ARY COPRODUCT
= coproduct sign
2211 ∑ N-ARY SUMMATION
= summation sign
→ 03A3 Σ greek capital letter sigma
→ 2140 ⅀ double-struck n-ary summation

Operators

2212 − MINUS SIGN
→ 002D - hyphen-minus
→ 2796 ➖ heavy minus sign
2213 ∓ MINUS-OR-PLUS SIGN
→ 00B1 ± plus-minus sign
2214 ∔ DOT PLUS
2215 ∕ DIVISION SLASH
• generic division operator
→ 002F / solidus
→ 2044 ⁄ fraction slash
→ 27CB ⟋ mathematical rising diagonal
2216 ∖ SET MINUS
→ 005C \ reverse solidus
→ 27CD ⟍ mathematical falling diagonal
→ 29F5 ⧵ reverse solidus operator
2217 ∗ ASTERISK OPERATOR
• may be used to represent the telephony asterisk seen on keypads
→ 002A * asterisk
2218 ∘ RING OPERATOR
= composite function
= APL jot
→ 00B0 ° degree sign
→ 0970 ॰ devanagari abbreviation sign
→ 25E6 ◦ white bullet
→ 10B39 𐬹 avestan abbreviation mark
2219 ∙ BULLET OPERATOR
→ 00B7 · middle dot
→ 2022 • bullet
→ 2024 ‥ one dot leader
221A √ SQUARE ROOT
= radical sign
→ 2713 ✓ check mark
221B ∛ CUBE ROOT
→ 0606 ؆ arabic-indic cube root
221C ∜ FOURTH ROOT
→ 0607 ؇ arabic-indic fourth root
221D ∝ PROPORTIONAL TO
→ 03B1 α greek small letter alpha

Miscellaneous mathematical symbol

221E ∞ INFINITY

Angles

Other angle symbols are found at 299B-29AF.

221F ∟ RIGHT ANGLE
= with (in chess notation)
→ 2BFE ⊾ reversed right angle
2220 ∠ ANGLE
• used in astrological contexts for aspect semisquare
→ 299F ⦟ acute angle
2221 ∡ MEASURED ANGLE
→ 1CEF9 𜻹 measured angle with double arc
2222 ∢ SPHERICAL ANGLE
= angle arc

Relations

2223 ∣ DIVIDES
= such that
= APL stile
→ 007C | vertical line
→ 01C0 ǀ latin letter dental click

2224 ∤ DOES NOT DIVIDE
≡ 2223 | 0338 ◌̸
2225 ∥ PARALLEL TO
→ 01C1 ǁ latin letter lateral click
→ 2016 ‖ double vertical line
2226 ∦ NOT PARALLEL TO
≡ 2225 ∥ 0338 ◌̸

Logical and set operators

2227 ∧ LOGICAL AND
= wedge, conjunction
→ 22C0 ⋀ n-ary logical and
→ 2303 ⌃ up arrowhead
→ 27D1 ⟑ and with dot
2228 ∨ LOGICAL OR
= vee, disjunction
→ 22C1 ⋁ n-ary logical or
→ 2304 ⌄ down arrowhead
→ 27C7 ⟇ or with dot inside
2229 ∩ INTERSECTION
= cap, hat
→ 22C2 ⋂ n-ary intersection
~ 2229 FE00 ∩ with serifs
222A ∪ UNION
= cup
→ 22C3 ⋃ n-ary union
~ 222A FE00 ∪ with serifs

Integrals

222B ∫ INTEGRAL
→ 0283 ʃ latin small letter esh
222C ∬ DOUBLE INTEGRAL
≈ 222B ∫ 222B ∫
222D ∭ TRIPLE INTEGRAL
→ 2A0C ⨌ quadruple integral operator
≈ 222B ∫ 222B ∫ 222B ∫
222E ∮ CONTOUR INTEGRAL
→ 2A15 ⨍ integral around a point operator
222F ∯ SURFACE INTEGRAL
≈ 222E ∮ 222E ∮
2230 ∰ VOLUME INTEGRAL
≈ 222E ∮ 222E ∮ 222E ∮
2231 ∱ CLOCKWISE INTEGRAL
2232 ∲ CLOCKWISE CONTOUR INTEGRAL
2233 ∳ ANTICLOCKWISE CONTOUR INTEGRAL
• clockwise or anticlockwise arrows do not reverse during layout mirroring

Miscellaneous mathematical symbols

2234 ∴ THEREFORE
→ 26EC ∴ historic site
2235 ∵ BECAUSE

Relations

2236 : RATIO
• preferred to 003A : for denotation of division or scale in mathematical use
→ 003A : colon
2237 :: PROPORTION

Operator

2238 ∸ DOT MINUS
= saturating subtraction
• sometimes claimed as notation for symmetric set difference, but 2206 Δ is preferred

Relation

2239 ∹ EXCESS

Operator

223A ∺ GEOMETRIC PROPORTION

Relations

223B ∻ HOMOTHETIC
→ 2A6B ⨫ tilde operator with rising dots
223C ∼ TILDE OPERATOR
= varies with (proportional to)
= difference between
= similar to
= not
= cycle
= APL tilde
→ 007E ~ tilde
→ 00AC ¬ not sign
→ 02DC ˜ small tilde
223D ∽ REVERSED TILDE
= lazy S
• reversed tilde and lazy S are glyph variants
~ 223D FE00 ∽ using lazy S
223E ∾ INVERTED LAZY S
= most positive

Miscellaneous mathematical symbol

223F ∿ SINE WAVE
= alternating current
→ 23E6 ⏦ ac current

Operator

2240 ≀ WREATH PRODUCT
→ 2E2F ⸯ vertical tilde

Relations

2241 ≁ NOT TILDE
≡ 223C ∼ 0338 ◌̸
2242 ≂ MINUS TILDE
~ 2242 FE00 ≂ using lazy S
2243 ≃ ASYMPTOTICALLY EQUAL TO
~ 2243 FE00 ≃ using lazy S
2244 ≄ NOT ASYMPTOTICALLY EQUAL TO
≡ 2243 ≃ 0338 ◌̸
2245 ≅ APPROXIMATELY EQUAL TO
→ 2A70 ⩰ approximately equal or equal to
2246 ≆ APPROXIMATELY BUT NOT ACTUALLY EQUAL TO
2247 ≇ NEITHER APPROXIMATELY NOR ACTUALLY EQUAL TO
≡ 2245 ≅ 0338 ◌̸
2248 ≈ ALMOST EQUAL TO
= asymptotic to
~ 2248 FE00 ≈ using lazy S
2249 ≉ NOT ALMOST EQUAL TO
≡ 2248 ≈ 0338 ◌̸
224A ≊ ALMOST EQUAL OR EQUAL TO
224B ≋ TRIPLE TILDE
224C ≌ ALL EQUAL TO
• reversed tilde and lazy S are glyph variants
224D ≍ EQUIVALENT TO
224E ≎ GEOMETRICALLY EQUIVALENT TO
224F ≏ DIFFERENCE BETWEEN
2250 ≐ APPROACHES THE LIMIT
2251 ≑ GEOMETRICALLY EQUAL TO

2252 ≒ APPROXIMATELY EQUAL TO OR THE IMAGE OF
= nearly equals
2253 ≓ IMAGE OF OR APPROXIMATELY EQUAL TO
2254 ≔ COLON EQUALS
2255 ≕ EQUALS COLON
2256 ≖ RING IN EQUAL TO
2257 ≗ RING EQUAL TO
= approximately equal to
2258 ≘ CORRESPONDS TO
2259 ≙ ESTIMATES
= corresponds to
225A ≚ EQUIANGULAR TO
225B ≛ STAR EQUALS
225C ≜ DELTA EQUAL TO
= equiangular
= equal to by definition
225D ≝ EQUAL TO BY DEFINITION
225E ≞ MEASURED BY
225F ≟ QUESTIONED EQUAL TO
2260 ≠ NOT EQUAL TO
→ 003D = equals sign
→ 01C2 ǂ latin letter alveolar click
≡ 003D = 0338 ◌̸
2261 ≡ IDENTICAL TO
2262 ≢ NOT IDENTICAL TO
≡ 2261 ≡ 0338 ◌̸
2263 ≣ STRICTLY EQUIVALENT TO
2264 ≤ LESS-THAN OR EQUAL TO
→ 003C < less-than sign
→ 29A4 ⦤ angle with underbar
2265 ≥ GREATER-THAN OR EQUAL TO
→ 003E > greater-than sign
→ 29A5 ⦥ reversed angle with underbar
2266 ≦ LESS-THAN OVER EQUAL TO
2267 ≧ GREATER-THAN OVER EQUAL TO
2268 ≨ LESS-THAN BUT NOT EQUAL TO
→ 2A87 ⪇ less-than and single-line not equal to
~ 2268 FE00 ≨ with vertical stroke
2269 ≩ GREATER-THAN BUT NOT EQUAL TO
→ 2A88 ⪈ greater-than and single-line not equal to
~ 2269 FE00 ≩ with vertical stroke
226A ≪ MUCH LESS-THAN
→ 00AB « left-pointing double angle quotation mark
226B ≫ MUCH GREATER-THAN
→ 00BB » right-pointing double angle quotation mark
226C ≬ BETWEEN
= plaintiff, quantic
226D ≭ NOT EQUIVALENT TO
≡ 224D ≍ 0338 ◌̸
226E ≮ NOT LESS-THAN
≡ 003C < 0338 ◌̸
226F ≯ NOT GREATER-THAN
≡ 003E > 0338 ◌̸
2270 ≰ NEITHER LESS-THAN NOR EQUAL TO
≡ 2264 ≤ 0338 ◌̸
2271 ≱ NEITHER GREATER-THAN NOR EQUAL TO
≡ 2265 ≥ 0338 ◌̸
2272 ≲ LESS-THAN OR EQUIVALENT TO
~ 2272 FE00 ≲ following the slant of the lower leg
2273 ≳ GREATER-THAN OR EQUIVALENT TO
~ 2273 FE00 ≳ following the slant of the lower leg
2274 ≴ NEITHER LESS-THAN NOR EQUIVALENT TO
≡ 2272 ≲ 0338 ◌̸
2275 ≵ NEITHER GREATER-THAN NOR EQUIVALENT TO
≡ 2273 ≳ 0338 ◌̸
2276 ≶ LESS-THAN OR GREATER-THAN
2277 ≷ GREATER-THAN OR LESS-THAN
2278 ≸ NEITHER LESS-THAN NOR GREATER-THAN
≡ 2276 ≶ 0338 ◌̸
2279 ≹ NEITHER GREATER-THAN NOR LESS-THAN
≡ 2277 ≷ 0338 ◌̸
227A ≺ PRECEDES
= lower rank than
→ 22B0 ⊰ precedes under relation
227B ≻ SUCCEEDS
= higher rank than
→ 22B1 ⊱ succeeds under relation
227C ≼ PRECEDES OR EQUAL TO
→ 2AAF ⪯ precedes above single-line equals sign
→ 2AB3 ⪳ precedes above equals sign
227D ≽ SUCCEEDS OR EQUAL TO
→ 2AB0 ⪰ succeeds above single-line equals sign
→ 2AB4 ⪴ succeeds above equals sign
227E ≾ PRECEDES OR EQUIVALENT TO
→ 2AB7 ⪷ precedes above almost equal to
227F ≿ SUCCEEDS OR EQUIVALENT TO
→ 2AB8 ⪸ succeeds above almost equal to
2280 ⊀ DOES NOT PRECEDE
≡ 227A ≺ 0338 ◌̸
2281 ⊁ DOES NOT SUCCEED
≡ 227B ≻ 0338 ◌̸
2282 ⊂ SUBSET OF
= included in set
→ 2E26 ⊂ left sideways u bracket
2283 ⊃ SUPERSET OF
= includes in set
→ 2E27 ⊃ right sideways u bracket
2284 ⊄ NOT A SUBSET OF
≡ 2282 ⊂ 0338 ◌̸
2285 ⊅ NOT A SUPERSET OF
≡ 2283 ⊃ 0338 ◌̸
2286 ⊆ SUBSET OF OR EQUAL TO
2287 ⊇ SUPERSET OF OR EQUAL TO
2288 ⊈ NEITHER A SUBSET OF NOR EQUAL TO
≡ 2286 ⊆ 0338 ◌̸
2289 ⊉ NEITHER A SUPERSET OF NOR EQUAL TO
≡ 2287 ⊇ 0338 ◌̸
228A ⊊ SUBSET OF WITH NOT EQUAL TO
~ 228A FE00 ⊊ with stroke through bottom members
228B ⊋ SUPERSET OF WITH NOT EQUAL TO
~ 228B FE00 ⊋ with stroke through bottom members

Operators

228C ⊌ MULTISET
228D ⊍ MULTISET MULTIPLICATION
→ 2A03 ⨃ n-ary union operator with dot
→ 2A40 ⩀ intersection with dot

228E ⊎ MULTISET UNION
= z notation bag addition
→ 2A04 ⨄ n-ary union operator with plus

Relations

228F ⊏ SQUARE IMAGE OF
2290 ⊐ SQUARE ORIGINAL OF
2291 ⊑ SQUARE IMAGE OF OR EQUAL TO
2292 ⊒ SQUARE ORIGINAL OF OR EQUAL TO

Operators

2293 ⊓ SQUARE CAP
→ 2A05 ⨅ n-ary square intersection operator
~ 2293 FE00 ⊓ with serifs
2294 ⊔ SQUARE CUP
→ 2A06 ⨆ n-ary square union operator
~ 2294 FE00 ⊔ with serifs
2295 ⊕ CIRCLED PLUS
= direct sum
= vector pointing into page
→ 2A01 ⨁ n-ary circled plus operator
→ 1F728 🜖 alchemical symbol for verdigris
~ 2295 FE00 ⊕ with white rim
2296 ⊖ CIRCLED MINUS
= symmetric difference
→ 29B5 ⦵ circle with horizontal bar
→ 1F714 🜔 alchemical symbol for salt
2297 ⊗ CIRCLED TIMES
= tensor product
= vector pointing into page
→ 26D2 ⛒ circled crossing lanes
→ 2A02 ⨂ n-ary circled times operator
→ 2BBE ⊗ circled x
→ 1F774 🝴 lot of fortune
~ 2297 FE00 ⊗ with white rim
2298 ⊘ CIRCLED DIVISION SLASH
2299 ⊙ CIRCLED DOT OPERATOR
= direct product
= vector pointing out of page
→ 0298 ʘ latin letter bilabial click
→ 2609 ☉ sun
→ 2A00 ⨀ n-ary circled dot operator
229A ⊚ CIRCLED RING OPERATOR
→ 233E ⌾ apl functional symbol circle jot
→ 25CE ◎ bullseye
229B ⊛ CIRCLED ASTERISK OPERATOR
→ 235F ⍟ apl functional symbol circle star
229C ⊜ CIRCLED EQUALS
= NoDerivatives (symbol used for Creative Commons licenses)
→ 1F16D 🅭 circled cc
~ 229C FE00 ⊜ with equal sign touching the circle
229D ⊝ CIRCLED DASH
229E ⊞ SQUARED PLUS
229F ⊟ SQUARED MINUS
22A0 ⊠ SQUARED TIMES
→ 2612 ☒ ballot box with x
→ 26DD ⛝ squared saltire
→ 1F771 🝱 alchemical symbol for month
22A1 ⊡ SQUARED DOT OPERATOR
→ 1F755 🝕 alchemical symbol for urine
→ 1FBBC ⧈ right open squared dot

22A2 ⊢ RIGHT TACK
= turnstile
= proves, implies, yields
= reducible
22A3 ⊣ LEFT TACK
= reverse turnstile
= non-theorem, does not yield

Miscellaneous mathematical symbols

22A4 ⊤ DOWN TACK
= top
→ 2E06 ᵀ raised interpolation marker
→ 1F768 🝨 alchemical symbol for crucible-4
22A5 ⊥ UP TACK
= base, bottom
→ 27C2 ⟂ perpendicular

Relations

22A6 ⊦ ASSERTION
= reduces to
22A7 ⊧ MODELS
22A8 ⊨ TRUE
= statement is true, valid
= is a tautology
= satisfies
= results in
22A9 ⊩ FORCES
22AA ⊪ TRIPLE VERTICAL BAR RIGHT TURNSTILE
22AB ⊫ DOUBLE VERTICAL BAR DOUBLE RIGHT TURNSTILE
22AC ⊬ DOES NOT PROVE
≡ 22A2 ⊢ 0338 ◌̸
22AD ⊭ NOT TRUE
≡ 22A8 ⊨ 0338 ◌̸
22AE ⊯ DOES NOT FORCE
≡ 22A9 ⊩ 0338 ◌̸
22AF ⊯ NEGATED DOUBLE VERTICAL BAR DOUBLE RIGHT TURNSTILE
≡ 22AB ⊫ 0338 ◌̸
22B0 ⊰ PRECEDES UNDER RELATION
→ 227A ≺ precedes
22B1 ⊱ SUCCEEDS UNDER RELATION
→ 227B ≻ succeeds
22B2 ⊲ NORMAL SUBGROUP OF
→ 25C5 ◅ white left-pointing pointer
22B3 ⊳ CONTAINS AS NORMAL SUBGROUP
→ 25BB ▻ white right-pointing pointer
22B4 ⊴ NORMAL SUBGROUP OF OR EQUAL TO
22B5 ⊵ CONTAINS AS NORMAL SUBGROUP OR EQUAL TO
22B6 ⊶ ORIGINAL OF
22B7 ⊷ IMAGE OF
22B8 ⊸ MULTIMAP
22B9 ⊹ HERMITIAN CONJUGATE MATRIX

Operators

22BA ⊺ INTERCALATE
22BB ⊻ XOR
→ 26BA ⚺ semisextile
22BC ⊼ NAND
→ 2305 ⌅ projective
→ 26BB ⚻ quincunx
22BD ⊽ NOR

Miscellaneous mathematical symbols

22BE ⊾ RIGHT ANGLE WITH ARC

22BF ◿ RIGHT TRIANGLE

N-ary operators

22C0 ⋀ N-ARY LOGICAL AND
- also used to denote the universal quantifier
- → 2227 ∧ logical and

22C1 ⋁ N-ARY LOGICAL OR
- also used to denote the existential quantifier
- → 2228 ∨ logical or

22C2 ⋂ N-ARY INTERSECTION
- = z notation generalised intersection
- → 2229 ∩ intersection

22C3 ⋃ N-ARY UNION
- = z notation generalised union
- → 222A ∪ union

Operators

22C4 ⋄ DIAMOND OPERATOR
- → 25C7 ◇ white diamond
- → 2B29 ⬧ black small diamond

22C5 ⋅ DOT OPERATOR
- preferred to 00B7 · for denotation of multiplication
- → 00B7 · middle dot

22C6 ⋆ STAR OPERATOR
- APL
- → 066D ⋆ arabic five pointed star
- → 2605 ★ black star
- → 2B50 ⋆ white medium star

22C7 ⋇ DIVISION TIMES
- ambiguous sign conflating two operators
- → 00B1 ± plus-minus sign
- → 00D7 × multiplication sign
- → 00F7 ÷ division sign
- → 2715 ✕ multiplication x

Relation

22C8 ⋈ BOWTIE
- → 2445 ⋈ ocr bow tie

Operators

22C9 ⋉ LEFT NORMAL FACTOR SEMIDIRECT PRODUCT

22CA ⋊ RIGHT NORMAL FACTOR SEMIDIRECT PRODUCT

22CB ⋋ LEFT SEMIDIRECT PRODUCT

22CC ⋌ RIGHT SEMIDIRECT PRODUCT
- → 2041 ⁁ caret insertion point

Relation

22CD ≍ REVERSED TILDE EQUALS
- ~ 22CD FE00 ≍ using lazy S

Logical operators

22CE ⋎ CURLY LOGICAL OR

22CF ⋏ CURLY LOGICAL AND

Relations

22D0 ⋐ DOUBLE SUBSET

22D1 ⋑ DOUBLE SUPERSET

Operators

22D2 ⋒ DOUBLE INTERSECTION

22D3 ⋓ DOUBLE UNION

Relations

22D4 ⋔ PITCHFORK
- = proper intersection

22D5 ⋕ EQUAL AND PARALLEL TO
- → 2317 ⌗ viewdata square

22D6 ⋖ LESS-THAN WITH DOT

22D7 ⋗ GREATER-THAN WITH DOT

22D8 ⋘ VERY MUCH LESS-THAN

22D9 ⋙ VERY MUCH GREATER-THAN

22DA ⋚ LESS-THAN EQUAL TO OR GREATER-THAN
- ~ 22DA FE00 ⋚ with slanted equal

22DB ⋛ GREATER-THAN EQUAL TO OR LESS-THAN
- ~ 22DB FE00 ⋛ with slanted equal

22DC ⋜ EQUAL TO OR LESS-THAN
- → 2A95 ⩕ slanted equal to or less-than
- ~ 22DC FE00 ⋜ with horizontal equal

22DD ⋝ EQUAL TO OR GREATER-THAN
- → 2A96 ⩖ slanted equal to or greater-than
- ~ 22DD FE00 ⋝ with horizontal equal

22DE ⋞ EQUAL TO OR PRECEDES

22DF ⋟ EQUAL TO OR SUCCEEDS

22E0 ⋠ DOES NOT PRECEDE OR EQUAL
- ≡ 227C ≼ 0338 ∅

22E1 ⋡ DOES NOT SUCCEED OR EQUAL
- ≡ 227D ≽ 0338 ∅

22E2 ⋢ NOT SQUARE IMAGE OF OR EQUAL TO
- ≡ 2291 ⊑ 0338 ∅

22E3 ⋣ NOT SQUARE ORIGINAL OF OR EQUAL TO
- ≡ 2292 ⊒ 0338 ∅

22E4 ⋤ SQUARE IMAGE OF OR NOT EQUAL TO

22E5 ⋥ SQUARE ORIGINAL OF OR NOT EQUAL TO

22E6 ⋦ LESS-THAN BUT NOT EQUIVALENT TO

22E7 ⋧ GREATER-THAN BUT NOT EQUIVALENT TO

22E8 ⋨ PRECEDES BUT NOT EQUIVALENT TO

22E9 ⋩ SUCCEEDS BUT NOT EQUIVALENT TO

22EA ⋪ NOT NORMAL SUBGROUP OF
- ≡ 22B2 ◁ 0338 ∅

22EB ⋫ DOES NOT CONTAIN AS NORMAL SUBGROUP
- ≡ 22B3 ▷ 0338 ∅

22EC ⋬ NOT NORMAL SUBGROUP OF OR EQUAL TO
- ≡ 22B4 ⊴ 0338 ∅

22ED ⋭ DOES NOT CONTAIN AS NORMAL SUBGROUP OR EQUAL
- ≡ 22B5 ⊵ 0338 ∅

Matrix ellipses

These four ellipsis characters are used for matrix row/column elision.

22EE ⋮ VERTICAL ELLIPSIS
- → 205D ⁝ tricolon
- → 2026 … horizontal ellipsis
- → FE19 ⋮ presentation form for vertical horizontal ellipsis

22EF ⋯ MIDLINE HORIZONTAL ELLIPSIS

22F0 ⋰ UP RIGHT DIAGONAL ELLIPSIS

22F1 ⋱ DOWN RIGHT DIAGONAL ELLIPSIS

Relations

22F2 ⋲ ELEMENT OF WITH LONG HORIZONTAL STROKE

22F3 ⋳ ELEMENT OF WITH VERTICAL BAR AT END OF HORIZONTAL STROKE

22F4 ⋴ SMALL ELEMENT OF WITH VERTICAL BAR AT END OF HORIZONTAL STROKE

22F5 ⋵ ELEMENT OF WITH DOT ABOVE

22F6 ⋶ ELEMENT OF WITH OVERBAR

22F7 ⋷ SMALL ELEMENT OF WITH OVERBAR

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22F8 ⋸ ELEMENT OF WITH UNDERBAR
22F9 ⋹ ELEMENT OF WITH TWO HORIZONTAL STROKES
22FA ⋺ CONTAINS WITH LONG HORIZONTAL STROKE
22FB ⋻ CONTAINS WITH VERTICAL BAR AT END OF HORIZONTAL STROKE
22FC ⋼ SMALL CONTAINS WITH VERTICAL BAR AT END OF HORIZONTAL STROKE
22FD ⋽ CONTAINS WITH OVERBAR
22FE ⋾ SMALL CONTAINS WITH OVERBAR
22FF ⋿ Z NOTATION BAG MEMBERSHIP

Standardized Variation Sequences

2205 ∅ EMPTY SET

2205

∅ zero with long diagonal stroke overlay form

2205 FE00

2229 ∩ INTERSECTION

2229

∩ with serifs

2229 FE00

222A ∪ UNION

222A

∪ with serifs

222A FE00

223D ∽ REVERSED TILDE

223D

∽ using lazy S

223D FE00

2242 ≂ MINUS TILDE

2242

≂ using lazy S

2242 FE00

2243 ≃ ASYMPTOTICALLY EQUAL TO

2243

≃ using lazy S

2243 FE00

2248 ≈ ALMOST EQUAL TO

2248

≈ using lazy S

2248 FE00

2268 ≨ LESS-THAN BUT NOT EQUAL TO

2268

≨ with vertical stroke

2268 FE00

2269 ≩ GREATER-THAN BUT NOT EQUAL TO

2269

≩ with vertical stroke

2269 FE00

2272 ≲ LESS-THAN OR EQUIVALENT TO

2272

≲ following the slant of the lower leg

2272 FE00

2273 ≳ GREATER-THAN OR EQUIVALENT TO

2273

≳ following the slant of the lower leg

2273 FE00

228A ⊊ SUBSET OF WITH NOT EQUAL TO

228A

⊊ with stroke through bottom members

228A FE00

228B ⊋ SUPERSET OF WITH NOT EQUAL TO

228B

⊋ with stroke through bottom members

228B FE00

2293 ⊓ SQUARE CAP

2293

⊓ with serifs

2293 FE00

2294 ⊔ SQUARE CUP

2294

⊔ with serifs

2294 FE00

2295 ⊕ CIRCLED PLUS

2295

⊕ with white rim

2295 FE00

2297 ⊗ CIRCLED TIMES

2297

⊗ with white rim

2297 FE00

229C ⊜ CIRCLED EQUALS

229C

⊜ with equal sign touching the circle

229C FE00

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22CD ≍ REVERSED TILDE EQUALS

22CD

≍ using lazy S

22CD FE00

22DA ⋚ LESS-THAN EQUAL TO OR GREATER-THAN

22DA

⋚ with slanted equal

22DA FE00

22DB ⋛ GREATER-THAN EQUAL TO OR LESS-THAN

22DB

⋛ with slanted equal

22DB FE00

22DC ≤ EQUAL TO OR LESS-THAN

22DC

≤ with horizontal equal

22DC FE00

22DD ≥ EQUAL TO OR GREATER-THAN

22DD

≥ with horizontal equal

22DD FE00