

Mathematical Operators

Unicode	Character	HTML 4.0	Numerical HTML encoding	Name
U+2200	□	∀	∀	FOR ALL
U+2201	∁		∁	COMPLEMENT
U+2202	∂	∂	∂	PARTIAL DIFFERENTIAL
U+2203	∃	∃	∃	THERE EXISTS
U+2204	∄		∄	THERE DOES NOT EXIST
U+2205	∅	∅	∅	EMPTY SET
U+2206	Δ		∆	INCREMENT
U+2207	∇	∇	∇	NABLA
U+2208	∋	∈	∈	ELEMENT OF
U+2209	∉	∉	∉	NOT AN ELEMENT OF
U+220A	∈		∊	SMALL ELEMENT OF
U+220B	∋	∋	∋	CONTAINS AS MEMBER
U+220C	∌		∌	DOES NOT CONTAIN AS MEMBER
U+220D	⊃		∍	SMALL CONTAINS AS MEMBER
U+220E	■		∎	END OF PROOF
U+220F	∏	∏	∏	N-ARY PRODUCT
U+2210	∏		∐	N-ARY COPRODUCT
U+2211	∑	∑	∑	N-ARY SUMMATION
U+2212	−	−	−	MINUS SIGN
U+2213	∓		∓	MINUS-OR-PLUS SIGN
U+2214	⋅		∔	DOT PLUS
U+2215	/		∕	DIVISION SLASH
U+2216	∖		∖	SET MINUS
U+2217	*	∗	∗	ASTERISK OPERATOR
U+2218	∘		∘	RING OPERATOR
U+2219	⋅		∙	BULLET OPERATOR
U+221A	√	√	√	SQUARE ROOT
U+221B	∛		∛	CUBE ROOT
U+221C	∜		∜	FOURTH ROOT
U+221D	∝	∝	∝	PROPORTIONAL TO
U+221E	∞	∞	∞	INFINITY
U+221F	∟		∟	RIGHT ANGLE
U+2220	∠	∠	∠	ANGLE
U+2221	∠		∡	MEASURED ANGLE
U+2222	∠		∢	SPHERICAL ANGLE
U+2223	∣		∣	DIVIDES
U+2224	∤		∤	DOES NOT DIVIDE
U+2225	∥		∥	PARALLEL TO
U+2226	∦		∦	NOT PARALLEL TO
U+2227	∧	∧	∧	LOGICAL AND
U+2228	∨	∨	∨	LOGICAL OR
U+2229	∩	∩	∩	INTERSECTION
U+222A	∪	∪	∪	UNION
U+222B	∫	∫	∫	INTEGRAL
U+222C	∫		∬	DOUBLE INTEGRAL
U+222D	∫		∭	TRIPLE INTEGRAL
U+222E	∫		∮	CONTOUR INTEGRAL
U+222F	∫		∯	SURFACE INTEGRAL
U+2230	∫		∰	VOLUME INTEGRAL
U+2231	∫		∱	CLOCKWISE INTEGRAL
U+2232	∫		∲	CLOCKWISE CONTOUR INTEGRAL
U+2233	∫		∳	ANTICLOCKWISE CONTOUR INTEGRAL
U+2234	∴	∴	∴	THEREFORE
U+2235	∵		∵	BECAUSE
U+2236	∶		∶	RATIO
U+2237	∝		∷	PROPORTION
U+2238	⋅		∸	DOT MINUS
U+2239	⋅		∹	EXCESS
U+223A	∴		∺	GEOMETRIC PROPORTION
U+223B	∝		∻	HOMOTHETIC
U+223C	∽	∼	∼	TILDE OPERATOR
U+223D	∾		∽	REVERSED TILDE
U+223E	∿		∾	INVERTED LAZY S
U+223F	∿		∿	SINE WAVE
U+2240	∸		≀	WREATH PRODUCT
U+2241	∉		≁	NOT TILDE
U+2242	∉		≂	MINUS TILDE
U+2243	∉		≃	ASYMPTOTICALLY EQUAL TO
U+2244	∉		≄	NOT ASYMPTOTICALLY EQUAL TO
U+2245	∉	≅	≅	APPROXIMATELY EQUAL TO
U+2246	∉		≆	APPROXIMATELY BUT NOT ACTUALLY EQUAL TO
U+2247	∉		≇	NEITHER APPROXIMATELY NOR ACTUALLY EQUAL TO
U+2248	∉	≈	≈	ALMOST EQUAL TO
U+2249	∉		≉	NOT ALMOST EQUAL TO
U+224A	∉		≊	ALMOST EQUAL OR EQUAL TO
U+224B	∉		≋	TRIPLE TILDE
U+224C	∉		≌	ALL EQUAL TO
U+224D	∉		≍	EQUIVALENT TO
U+224E	∉		≎	GEOMETRICALLY EQUIVALENT TO
U+224F	∉		≏	DIFFERENCE BETWEEN
U+2250	∉		≐	APPROACHES THE LIMIT

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Unicode	Character	HTML 4.0	Numerical HTML encoding	Name
U+2251	≍		≑	GEOMETRICALLY EQUAL TO
U+2252	≈		≒	APPROXIMATELY EQUAL TO OR THE IMAGE OF
U+2253	≐		≓	IMAGE OF OR APPROXIMATELY EQUAL TO
U+2254	≐		≔	COLON EQUALS
U+2255	≐		≕	EQUALS COLON
U+2256	≐		≖	RING IN EQUAL TO
U+2257	≐		≗	RING EQUAL TO
U+2258	≐		≘	CORRESPONDS TO
U+2259	≐		≙	ESTIMATES
U+225A	≐		≚	EQUIANGULAR TO
U+225B	≐		≛	STAR EQUALS
U+225C	≐		≜	DELTA EQUAL TO
U+225D	≐		≝	EQUAL TO BY DEFINITION
U+225E	≐		≞	MEASURED BY
U+225F	≐		≟	QUESTIONED EQUAL TO
U+2260	≠	≠	≠	NOT EQUAL TO
U+2261	≡	≡	≡	IDENTICAL TO
U+2262	≢		≢	NOT IDENTICAL TO
U+2263	≡		≣	STRICTLY EQUIVALENT TO
U+2264	≦	≤	≤	LESS-THAN OR EQUAL TO
U+2265	≧	≥	≥	GREATER-THAN OR EQUAL TO
U+2266	⊄		≦	LESS-THAN OVER EQUAL TO
U+2267	⊃		≧	GREATER-THAN OVER EQUAL TO
U+2268	⊈		≨	LESS-THAN BUT NOT EQUAL TO
U+2269	⊉		≩	GREATER-THAN BUT NOT EQUAL TO
U+226A	⊄		≪	MUCH LESS-THAN
U+226B	⊄		≫	MUCH GREATER-THAN
U+226C	⊄		≬	BETWEEN
U+226D	⊈		≭	NOT EQUIVALENT TO
U+226E	⊄		≮	NOT LESS-THAN
U+226F	⊄		≯	NOT GREATER-THAN
U+2270	⊈		≰	NEITHER LESS-THAN NOR EQUAL TO
U+2271	⊉		≱	NEITHER GREATER-THAN NOR EQUAL TO
U+2272	⊈		≲	LESS-THAN OR EQUIVALENT TO
U+2273	⊉		≳	GREATER-THAN OR EQUIVALENT TO
U+2274	⊈		≴	NEITHER LESS-THAN NOR EQUIVALENT TO
U+2275	⊉		≵	NEITHER GREATER-THAN NOR EQUIVALENT TO
U+2276	⊈		≶	LESS-THAN OR GREATER-THAN
U+2277	⊉		≷	GREATER-THAN OR LESS-THAN
U+2278	⊈		≸	NEITHER LESS-THAN NOR GREATER-THAN
U+2279	⊈		≹	NEITHER GREATER-THAN NOR LESS-THAN
U+227A	⋈		≺	PRECEDES
U+227B	⋈		≻	SUCCEEDS
U+227C	⋈		≼	PRECEDES OR EQUAL TO
U+227D	⋈		≽	SUCCEEDS OR EQUAL TO
U+227E	⋈		≾	PRECEDES OR EQUIVALENT TO
U+227F	⋈		≿	SUCCEEDS OR EQUIVALENT TO
U+2280	⋈		⊀	DOES NOT PRECEDE
U+2281	⋈		⊁	DOES NOT SUCCEED
U+2282	⊂	⊂	⊂	SUBSET OF
U+2283	⊃	⊃	⊃	SUPERSET OF
U+2284	⊄	⊅	⊄	NOT A SUBSET OF
U+2285	⊄		⊅	NOT A SUPERSET OF
U+2286	⊂	⊆	⊆	SUBSET OF OR EQUAL TO
U+2287	⊃	⊇	⊇	SUPERSET OF OR EQUAL TO
U+2288	⊄		⊈	NEITHER A SUBSET OF NOR EQUAL TO
U+2289	⊄		⊉	NEITHER A SUPERSET OF NOR EQUAL TO
U+228A	⊂		⊊	SUBSET OF WITH NOT EQUAL TO
U+228B	⊃		⊋	SUPERSET OF WITH NOT EQUAL TO
U+228C	⊃		⊌	MULTISET
U+228D	⊃		⊍	MULTISET MULTIPLICATION
U+228E	⊃		⊎	MULTISET UNION
U+228F	⊃		⊏	SQUARE IMAGE OF
U+2290	⊃		⊐	SQUARE ORIGINAL OF
U+2291	⊃		⊑	SQUARE IMAGE OF OR EQUAL TO
U+2292	⊃		⊒	SQUARE ORIGINAL OF OR EQUAL TO
U+2293	⊃		⊓	SQUARE CAP
U+2294	⊃		⊔	SQUARE CUP
U+2295	⊃	⊕	⊕	CIRCLED PLUS
U+2296	⊃		⊖	CIRCLED MINUS
U+2297	⊃	⊗	⊗	CIRCLED TIMES
U+2298	⊃		⊘	CIRCLED DIVISION SLASH
U+2299	⊃		⊙	CIRCLED DOT OPERATOR
U+229A	⊃		⊚	CIRCLED RING OPERATOR
U+229B	⊃		⊛	CIRCLED ASTERISK OPERATOR
U+229C	⊃		⊜	CIRCLED EQUALS
U+229D	⊃		⊝	CIRCLED DASH
U+229E	⊃		⊞	SQUARED PLUS
U+229F	⊃		⊟	SQUARED MINUS
U+22A0	⊃		⊠	SQUARED TIMES
U+22A1	⊃		⊡	SQUARED DOT OPERATOR

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Unicode	Character	HTML 4.0	Numerical HTML encoding	Name
U+22A2	┌		⊢	RIGHT TACK
U+22A3	└		⊣	LEFT TACK
U+22A4	┘		⊤	DOWN TACK
U+22A5	□	⊥	⊥	UP TACK
U+22A6	┆		⊦	ASSERTION
U+22A7	⊢		⊧	MODELS
U+22A8	⊨		⊨	TRUE
U+22A9	⊩		⊩	FORCES
U+22AA	⊪		⊪	TRIPLE VERTICAL BAR RIGHT TURNSTILE
U+22AB	⊫		⊫	DOUBLE VERTICAL BAR DOUBLE RIGHT TURNSTILE
U+22AC	⊬		⊬	DOES NOT PROVE
U+22AD	⊭		⊭	NOT TRUE
U+22AE	⊮		⊮	DOES NOT FORCE
U+22AF	⊯		⊯	NEGATED DOUBLE VERTICAL BAR DOUBLE RIGHT TURNSTILE
U+22B0	⋖		⊰	PRECEDES UNDER RELATION
U+22B1	⋗		⊱	SUCCEEDS UNDER RELATION
U+22B2	⋘		⊲	NORMAL SUBGROUP OF
U+22B3	⋙		⊳	CONTAINS AS NORMAL SUBGROUP
U+22B4	⋚		⊴	NORMAL SUBGROUP OF OR EQUAL TO
U+22B5	⋛		⊵	CONTAINS AS NORMAL SUBGROUP OR EQUAL TO
U+22B6	⋜		⊶	ORIGINAL OF
U+22B7	⋝		⊷	IMAGE OF
U+22B8	⋞		⊸	MULTIMAP
U+22B9	⋟		⊹	HERMITIAN CONJUGATE MATRIX
U+22BA	⋠		⊺	INTERCALATE
U+22BB	⋡		⊻	XOR
U+22BC	⋢		⊼	NAND
U+22BD	⋣		⊽	NOR
U+22BE	⋤		⊾	RIGHT ANGLE WITH ARC
U+22BF	⋥		⊿	RIGHT TRIANGLE
U+22C0	⋦		⋀	N-ARY LOGICAL AND
U+22C1	⋧		⋁	N-ARY LOGICAL OR
U+22C2	⋨		⋂	N-ARY INTERSECTION
U+22C3	⋩		⋃	N-ARY UNION
U+22C4	⋪		⋄	DIAMOND OPERATOR
U+22C5	⋫	⋅	⋅	DOT OPERATOR
U+22C6	⋬		⋆	STAR OPERATOR
U+22C7	⋭		⋇	DIVISION TIMES
U+22C8	⋮		⋈	BOWTIE
U+22C9	⋯		⋉	LEFT NORMAL FACTOR SEMIDIRECT PRODUCT
U+22CA	⋰		⋊	RIGHT NORMAL FACTOR SEMIDIRECT PRODUCT
U+22CB	⋱		⋋	LEFT SEMIDIRECT PRODUCT
U+22CC	⋲		⋌	RIGHT SEMIDIRECT PRODUCT
U+22CD	⋳		⋍	REVERSED TILDE EQUALS
U+22CE	⋴		⋎	CURLY LOGICAL OR
U+22CF	⋵		⋏	CURLY LOGICAL AND
U+22D0	⋶		⋐	DOUBLE SUBSET
U+22D1	⋷		⋑	DOUBLE SUPERSET
U+22D2	⋸		⋒	DOUBLE INTERSECTION
U+22D3	⋹		⋓	DOUBLE UNION
U+22D4	⋺		⋔	PITCHFORK
U+22D5	⋻		⋕	EQUAL AND PARALLEL TO
U+22D6	⋼		⋖	LESS-THAN WITH DOT
U+22D7	⋽		⋗	GREATER-THAN WITH DOT
U+22D8	⋾		⋘	VERY MUCH LESS-THAN
U+22D9	⋿		⋙	VERY MUCH GREATER-THAN
U+22DA	⋿		⋚	LESS-THAN EQUAL TO OR GREATER-THAN
U+22DB	⋿		⋛	GREATER-THAN EQUAL TO OR LESS-THAN
U+22DC	⋿		⋜	EQUAL TO OR LESS-THAN
U+22DD	⋿		⋝	EQUAL TO OR GREATER-THAN
U+22DE	⋿		⋞	EQUAL TO OR PRECEDES
U+22DF	⋿		⋟	EQUAL TO OR SUCCEEDS
U+22E0	⋿		⋠	DOES NOT PRECEDE OR EQUAL
U+22E1	⋿		⋡	DOES NOT SUCCEED OR EQUAL
U+22E2	⋿		⋢	NOT SQUARE IMAGE OF OR EQUAL TO
U+22E3	⋿		⋣	NOT SQUARE ORIGINAL OF OR EQUAL TO
U+22E4	⋿		⋤	SQUARE IMAGE OF OR NOT EQUAL TO
U+22E5	⋿		⋥	SQUARE ORIGINAL OF OR NOT EQUAL TO
U+22E6	⋿		⋦	LESS-THAN BUT NOT EQUIVALENT TO
U+22E7	⋿		⋧	GREATER-THAN BUT NOT EQUIVALENT TO
U+22E8	⋿		⋨	PRECEDES BUT NOT EQUIVALENT TO
U+22E9	⋿		⋩	SUCCEEDS BUT NOT EQUIVALENT TO
U+22EA	⋿		⋪	NOT NORMAL SUBGROUP OF
U+22EB	⋿		⋫	DOES NOT CONTAIN AS NORMAL SUBGROUP
U+22EC	⋿		⋬	NOT NORMAL SUBGROUP OF OR EQUAL TO
U+22ED	⋿		⋭	DOES NOT CONTAIN AS NORMAL SUBGROUP OR EQUAL
U+22EE	⋯		⋮	VERTICAL ELLIPSIS
U+22EF	⋯		⋯	MIDLINE HORIZONTAL ELLIPSIS
U+22F0	⋯		⋰	UP RIGHT DIAGONAL ELLIPSIS
U+22F1	⋯		⋱	DOWN RIGHT DIAGONAL ELLIPSIS
U+22F2	⋯		⋲	ELEMENT OF WITH LONG HORIZONTAL STROKE

Mathematical Operators

Unicode	Character	HTML 4.0	Numerical HTML encoding	Name
U+22F3	□		⋳	ELEMENT OF WITH VERTICAL BAR AT END OF HORIZONTAL STROKE
U+22F4	□		⋴	SMALL ELEMENT OF WITH VERTICAL BAR AT END OF HORIZONTAL STROKE
U+22F5	□		⋵	ELEMENT OF WITH DOT ABOVE
U+22F6	□		⋶	ELEMENT OF WITH OVERBAR
U+22F7	□		⋷	SMALL ELEMENT OF WITH OVERBAR
U+22F8	□		⋸	ELEMENT OF WITH UNDERBAR
U+22F9	□		⋹	ELEMENT OF WITH TWO HORIZONTAL STROKES
U+22FA	□		⋺	CONTAINS WITH LONG HORIZONTAL STROKE
U+22FB	□		⋻	CONTAINS WITH VERTICAL BAR AT END OF HORIZONTAL STROKE
U+22FC	□		⋼	SMALL CONTAINS WITH VERTICAL BAR AT END OF HORIZONTAL STROKE
U+22FD	□		⋽	CONTAINS WITH OVERBAR
U+22FE	□		⋾	SMALL CONTAINS WITH OVERBAR
U+22FF	□		⋿	Z NOTATION BAG MEMBERSHIP