

Title: Finalized Mapping between Characters of ISO 6862 – Table 2 and ISO/IEC 10646-1 (UCS)
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References: ISO/TC46/SC4/WG1 N 247, ISO/TC46/SC4/WG1 N 227 (revised 1998-05-29) and ISO/IEC JTC1/SC2 N3131 (Application for Registration No. 218)
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1. Background

On May 9, 2000, ISO/TC 46/SC 4/WG 1 reviewed documents that compared mappings of the characters of TC 46 character set standards and character sets which were sources for these standards to ISO/IEC 10646. Based on these comparative analyses, WG1 agreed on final mappings for eight of the TC 46 character set standards.

This document is a modification of *Analysis of Proposed Mapping between Characters of ISO 6862 – Table 2 and ISO/IEC 10646-1 (UCS)* prepared for the WG1 meeting (ISO/TC46/SC4/WG1 N 247).

2. Mapping of Characters

The following table shows the final WG1 decisions compared to N227.

ISO 6862 -- Table 2		Mappings		Status
Code	Character name	N 227	Final.	
2/1	Direct sum	2295	2295	
2/2	Symmetric difference	2296	2296	
2/3	Tensor product	2297	2297	
2/4	Inner product	2299	2299	
2/5	Therefore	2234	2234	

ISO 6862 -- Table 2		Mappings		Status
Code	Character name	N 227	Final.	
2/6	Because	2235	2235	
2/7	Image of	228F	228F	
2/8	Original of	2290	2290	
2/9	Image of	22B7	22B7	
2/10	Original of	22B6	22B6	
2/11	Hermitian conjugate matrix	22B9	22B9	
2/12	Direct sum	2214	2214	
2/13	Most positive	223E	223E	
2/14	Homothetic	223B	223B	
2/15	Element precedes under relation	22B0	22B0	
3/0	Not equal to	2260	2260	
3/1	Has an image	2253	2253	
3/2	Open angle bracket, left	3018	3018	
3/3	Left floor	230A	230A	
3/4	Triple colon	22EE	22EE	
3/5	Left ceiling	2308	2308	
3/6	Square subset	2291	2291	
3/7	Least upper bound	2294	2294	
3/8	Long triangle	22B2	22B2	
3/9	Is dominated by	227F	227F	
3/10	Has a lower rank than	227A	227A	
3/11	Is contained in or equal to	227C	227C	
3/12	Symmetric difference	2238	2238	
3/13	Estimates	2258	2259	Accepted
3/14	Implied by	25C3	25C1	Accepted
3/15	Triangle	25B5	25B3	Accepted
4/0	Asymptotically equal to	2243	2243	

ISO 6862 -- Table 2		Mappings		Status
Code	Character name	N 227	Final.	
4/1	Ratio	2237	2237	
4/2	Open angle bracket, right	3019	3019	
4/3	Right floor	230B	230B	
4/4	Geometrically equivalent to	224E	224E	
4/5	Right ceiling	2309	2309	
4/6	Square superset	2292	2292	
4/7	Greatest upper bound	2293	2293	
4/8	Long triangle, underlined	22B4	22B4	
4/9	Dominance	227E	227E	
4/10	Has a higher rank than	227B	227B	
4/11	Has a rank higher than or equal to	227D	227D	
4/12	Approaches the limit	2250	2250	
4/13	Equiangular	22AF	225A	Correction
4/14	Implies	22B9	25B7	Accepted
4/15	Hamilton operator	22BF	25BD	Accepted
5/0	Norm of a matrix	2016	2016	
5/1	Diagonal rule, to left	2215	002F	Change
5/2	Top element	22A4	22A4	
5/3	Vector or sum	New	22C1	Accepted
5/4	Sum or union of classes or sets	New	222A	Accepted
5/5	Is included in set	New	2282	Accepted
5/6	Is an element of	220A	220A	
5/7	Arrow, N.W.	2196	2196	
5/8	Arrow, S.W.	2199	2199	
5/9	Half upward arrow	21BE	21BE	

ISO 6862 -- Table 2		Mappings		Status
Code	Character name	N 227	Final.	
5/10	Crossed arrow, Right	219B	219B	
5/11	Curved arrow, right	21AA	21AA	
5/12	Circle, spacing	25CB	25CB	
5/13	Square	25A1	25A1	
5/14	Rectangle	25AD	25AD	
5/15	Lozenge	25CA	25CA	
6/0	Magnitude of	007C	007C	Affirmed
6/1	Diagonal rule, to right	005C	005C	Affirmed
6/2	Difference	2216	2216	
6/3	Vector product	New	22C0	Accepted
6/4	Product of intersection of classes or sets	New	2229	Accepted
6/5	Includes in set	New	2283	Accepted
6/6	Such that	220D	220D	
6/7	Arrow, N.E.	2197	2197	
6/8	Arrow, S.E.	2198	2198	
6/9	Functional relationship, to right	21DD	21DD	
6/10	On to map	21A0	21A0	
6/11	Curved arrow, left	21A9	21A9	
6/12	Dark circle	25CF	25CF	
6/13	End of proof	25A0	220E	Correction
6/14	Parallelogram	25B1	25B1	
6/15	Spherical angle	2221	2222	Correction
7/0	Approximately equal to; is the image of	2252	2252	
7/1	Geometric properties	223A	223A	
7/2	Varies as	221D	221D	

ISO 6862 -- Table 2		Mappings		Status
Code	Character name	N 227	Final.	
7/3	Curly vertical line	2307	2307	
7/4	Statement is true	22A8	22A8	
7/5	Assertion	22A6	22A6	
7/6	Not parallel to	2226	2226	
7/7	Crossed vertical bar	2224	2224	
7/8	Crossed arrow, to left	219A	219A	
7/9	Functional relationship, to left	21DC	21DC	
7/10	Equivalence	21D4	21D4	
7/11	Double arrow, up and down	21D5	21D5	
7/12	Inverted iota	2129	2129	
7/13	Weierstrass elliptic function	2118	2118	
7/14	Cross ratio	211E	211E	

3. WG1 Action: Correction of Errors

4/13 Equiangular

Correction of typographical error.

6/13 End of proof

U+2203 is specifically END OF PROOF, so this is the correct mapping.

6/15 Spherical angle

Correction of typographical error.

4. WG1 Action: Affirmation of N227 Mapping

6/0 Magnitude of

WG1 affirmed the mapping of this character as U+007C VERTICAL LINE. (*Application for Registration No. 218* mapped it to U+0076.)

6/1 Diagonal rule, to right

WG1 affirmed the mapping of this character as U+005C REVERSE SOLIDUS. (The mapping of character 5/1 Diagonal rule, to left was changed from U+2215 DIVISION SLASH to U+002F SOLIDUS.)

5. WG1 Action: Acceptance of Proposed Mappings

3/13 Estimates

Character 3/13 is shown in the code chart as angle (not curve) above equals sign. In the code list, the angularity in the image is unclear, but the character is annotated “Also: corresponds to.” Therefore, U+2259 ESTIMATES, which has the alias “corresponds to,” is the preferable mapping.

3/14 Implied by

The triangle at position 3/14 in Table 2 occupies the whole grid square: there is no indication in ISO 6862 that it is particularly small.

3/15 Triangle

The triangle at position 3/15 in Table 2 occupies the whole grid square: there is no indication in ISO 6862 that it is particularly small.

4/14 Implies

ISO/TC46/SC4/WG1 N227 maps this character to U+25B9, WHITE RIGHT-POINTING SMALL TRIANGLE. The triangle at position 4/14 in Table 2 occupies the whole grid square: there is no indication in ISO 6862 that it is particularly small.

4/15 Hamilton operator

This character is annotated “Also: curl of a vector”. ISO/TC46/SC4/WG1 N227 maps this character to U+25BF, WHITE DOWN-POINTING SMALL TRIANGLE. The triangle at position 4/15 in Table 2 occupies the whole grid square: there is no indication in ISO 6862 that it is particularly small.

5/3 Vector or sum

ISO/IEC JTC1/SC2/WG2 rejected the addition of a new character, accepting the US recommendation that this character and the Table 1 character 7/3, Logical or were variants, and both should be mapped to U+2228, LOGICAL OR. Unique mappings for both characters were identified when the American Mathematical Society proposed additional mathematical symbols for the Unicode Standard.

5/4 Sum or union of classes or sets

ISO/IEC JTC1/SC2/WG2 rejected the addition of a new character, accepting the US recommendation that this character and the Table 1 character 5/4 Union of sets between limits were variants, and both should be mapped to U+222A, UNION. Unique mappings for both characters were identified when the American Mathematical Society proposed additional mathematical symbols for the Unicode Standard.

5/5 Is included in set

ISO/IEC JTC1/SC2/WG2 rejected the addition of a new character, accepting the US recommendation that this character and the Table 1 character 5/1 Proper inclusion in set were variants, and both should be mapped to U+2282, SUBSET OF. WG1 accepted this mapping with the proviso that it should be changed if unique mappings for both characters were identified.

6/3 Vector product

ISO/IEC JTC1/SC2/WG2 rejected the addition of a new character, accepting the US recommendation that this character and the Table 1 character 7/4 Logical and were variants, and both should be mapped to U+2227, LOGICAL AND. Unique mappings for both characters were identified when the American Mathematical Society proposed additional mathematical symbols for the Unicode Standard.

6/4 Product of intersection of classes or sets

ISO/IEC JTC1/SC2/WG2 rejected the addition of a new character, accepting the US recommendation that this character and the Table 1 character 6/4 Intersection of classes or sets between limits were variants, and both should be mapped to U+2229, INTERSECTION. Unique mappings for both characters were identified when the American Mathematical Society proposed additional mathematical symbols for the Unicode Standard.

6/5 Includes in set

ISO/IEC JTC1/SC2/WG2 rejected the addition of a new character, accepting the US recommendation that this character and the Table 1 character 6/1 Properly includes in set were variants, and both should be mapped to U+2283, SUPERSET OF. WG1 accepted this mapping with the proviso that it should be changed if unique mappings for both characters were identified.