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Miscellaneous Symbols and Arrows

Miscellaneous Symbols and Arrows is a Unicode block containing arrows and geometric shapes with various fills, astrological symbols, technical symbols, intonation marks, and others.

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Miscellaneous Symbols and Arrows	
Range	U+2B00..U+2BFF (256 code points)
Plane	BMP
Scripts	Common
Symbol sets	Arrows Filled shapes Technical Astrological Chess Map symbols
Assigned	253 code points
Unused	3 reserved code points
Unicode version history	
4.0 (2003)	14 (+14)
4.1 (2005)	20 (+6)
5.0 (2006)	31 (+11)
5.1 (2008)	82 (+51)
5.2 (2009)	87 (+5)
7.0 (2014)	202 (+115)
8.0 (2015)	206 (+4)
10.0 (2017)	207 (+1)
11.0 (2018)	250 (+43)
12.0 (2019)	252 (+2)
13.0 (2020)	253 (+1)
Chart	
Code chart (https://www.unicode.org/charts/PDF/U2B00.pdf)	
Note: [1][2]	

Block

Miscellaneous Symbols and Arrows[1][2]
Official Unicode Consortium code chart (https://www.unicode.org/charts/PDF/U2B00.pdf) (PDF)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
U+2B0x	⬀	⬁	⬂	⬃	⬄	⬅	⬆	⬇	⬈	⬉	⬊	⬋	⬌	⬍	⬎	⬏
U+2B1x	⬐	⬑	⬒	⬓	⬔	⬕	⬖	⬗	⬘	⬙	⬚	⬛	⬜	⬝	⬞	⬟
U+2B2x	⬠	⬡	⬢	⬣	⬤	⬥	⬦	⬧	⬨	⬩	⬪	⬫	⬬	⬭	⬮	⬯
U+2B3x	⬰	⬱	⬲	⬳	⬴	⬵	⬶	⬷	⬸	⬹	⬺	⬻	⬼	⬽	⬾	⬿
U+2B4x	⭀	⭁	⭂	⭃	⭄	⭅	⭆	⭇	⭈	⭉	⭊	⭋	⭌	⭍	⭎	⭏
U+2B5x	⭐	⭑	⭒	⭓	⭔	⭕	⭖	⭗	⭘	⭙	⭚	⭛	⭜	⭝	⭞	⭟
U+2B6x	⭠	⭡	⭢	⭣	⭤	⭥	⭦	⭧	⭨	⭩	⭪	⭫	⭬	⭭	⭮	⭯
U+2B7x	⭰	⭱	⭲	⭳			⭶	⭷	⭸	⭹	⭺	⭻	⭼	⭽	⭾	⭿
U+2B8x	⮀	⮁	⮂	⮃	⮄	⮅	⮆	⮇	⮈	⮉	⮊	⮋	⮌	⮍	⮎	⮏
U+2B9x	⮐	⮑	⮒	⮓	⮔	⮕		⮗	⮘	⮙	⮚	⮛	⮜	⮝	⮞	⮟
U+2BAx	⮠	⮡	⮢	⮣	⮤	⮥	⮦	⮧	⮨	⮩	⮪	⮫	⮬	⮭	⮮	⮯
U+2BBx	⮰	⮱	⮲	⮳	⮴	⮵	⮶	⮷	⮸	⮹			⮼	⮽	⮾	⮿
U+2BCx	⯀	⯁	⯂	⯃	⯄	⯅	⯆	⯇	⯈		⯊	⯋	⯌	⯍	⯎	⯏
U+2BDx	⯐	⯑														
U+2BEx													⯬	⯭	⯮	⯯
U+2BFx																

Notes

1. **^** As of Unicode version 14.0
2. **^** Grey areas indicate non-assigned code points

Emoji

The Miscellaneous Symbols and Arrows block contains seven emoji: U+2B05–U+2B07, U+2B1B–U+2B1C, U+2B50 and U+2B55.[3][4]

The block has fourteen standardized variants defined to specify emoji-style (U+FE0F VS16) or text presentation (U+FE0E VS15) for the seven emoji.[5]

Emoji variation sequences

U+	2B05	2B06	2B07	2B1B	2B1C	2B50	2B55
default presentation	text	text	text	emoji	emoji	emoji	emoji
base code point	⬅	⬆	⬇	⬛	⬜	⭐	⭕
base+VS15 (text)	⬅	⬆	⬇	⬛	⬜	⭐	⭕
base+VS16 (emoji)	⬅	⬆	⬇	⬛	⬜	⭐	⭕

History

The following Unicode-related documents record the purpose and process of defining specific characters in the Miscellaneous Symbols and Arrows block:

Version	Final code points[a]	Count	L2 ID	WG2 ID
4.0	U+2B00..2B0D	14	L2/99-353 (https://www.unicode.org/L2/L1999/99353-n2056.pdf)	N2056 (https://www.unicode.org/wg2/docs/n2
			L2/99-380 (https://www.unicode.org/L2/L1999/99380.htm)	
			L2/99-380.3 (https://www.unicode.org/L2/L1999/J1n599903.pdf)	
			L2/00-084 (https://www.unicode.org/L2/L2000/00084-n2182.pdf)	N2182 (https://www.unicode.org/wg2/docs/n2
			L2/99-382 (https://www.unicode.org/L2/L1999/99382-korea.htm)	
			L2/00-066 (https://www.unicode.org/L2/L2000/00066-n2170.pdf)	N2170 (pdf (https://www.unicode.org/wg2/doc s://www.unicode.org/wg2/docs/n2170.doc))
			L2/00-073 (https://www.unicode.org/L2/L2000/00073-n2167.pdf)	N2167 (https://www.unicode.org/wg2/docs/n2
			L2/00-285 (https://www.unicode.org/L2/L2000/00285-n2244.pdf)	N2244 (https://www.unicode.org/wg2/docs/n2
			L2/00-291 (https://www.unicode.org/L2/L2000/00291-everson-com.txt)	
				N2282 (https://www.unicode.org/wg2/docs/n2
			L2/01-349 (https://www.unicode.org/L2/L2001/01349-N2374-DPRK-AddSymbols.pdf)	N2374R (https://www.unicode.org/wg2/docs/n
			L2/01-387 (https://www.unicode.org/L2/L2001/01387-n2390.pdf)	N2390 (https://www.unicode.org/wg2/docs/n2
			L2/01-388 (https://www.unicode.org/L2/L2001/01388-n2392.pdf)	N2392 (https://www.unicode.org/wg2/docs/n2
			L2/01-420 (https://www.unicode.org/L2/L2001/01420-consent-docket.txt)	

			L2/01-458 (https://www.unicode.org/L2/L2001/01458-n2407-KoreanMapReq.pdf)	N2407 (https://www.unicode.org/wg2/docs/n2…
			L2/02-372 (https://www.unicode.org/L2/L2002/02372-n2453-minutes.pdf)	N2453 (pdf (https://www.unicode.org/wg2/doc… w.unicode.org/wg2/docs/n2453.doc))
			L2/11-438 (https://www.unicode.org/L2/L2011/11438-emoji-var.pdf)[b][c]	N4182 (https://www.unicode.org/wg2/docs/n4…
4.1	U+2B0E..2B11	4	L2/03-119R2 (pdf (https://www.unicode.org/L2/L2003/03119r2-arrows.pdf), txt (https://www.unicode.org/L2/L2003/03119r-arrows.txt))	N2629 (https://www.unicode.org/wg2/docs/n2…
	U+2B12..2B13	2	L2/03-354 (https://www.unicode.org/L2/L2003/03354-n2655.pdf)	N2655 (https://www.unicode.org/wg2/docs/n2…
			L2/03-356R2 (https://www.unicode.org/consortium/utc-minutes/UTC-097-200311.html)	
5.0	U+2B14..2B19, 2B20..2B23	10	L2/04-406 (https://www.unicode.org/L2/L2004/04406-math.pdf)	
			L2/04-410 (https://www.unicode.org/L2/L2004/04410-math.pdf)	
	U+2B1A	1	L2/05-140 (https://www.unicode.org/L2/L2005/05140-dotted-square.pdf)	N2943 (https://www.unicode.org/wg2/docs/n2…
			L2/05-108R (https://www.unicode.org/L2/L2005/05108.htm)	
				N2953 (pdf (https://www.unicode.org/wg2/doc… w.unicode.org/wg2/docs/n2953.doc))
5.1	U+2B1B..2B1F, 2B24..2B2F, 2B45..2B46, 2B50..2B54	24	L2/07-011R (https://www.unicode.org/L2/L2007/07011-n3198-math.pdf)	N3198R (https://www.unicode.org/wg2/docs/n…
			L2/07-015 (https://www.unicode.org/L2/L2007/07015.htm)	
			L2/07-268 (https://www.unicode.org/L2/L2007/07268-n3253.pdf)	N3253 (pdf (https://www.unicode.org/wg2/doc… w.unicode.org/wg2/docs/n3253.doc))
			L2/11-438 (https://www.unicode.org/L2/L2011/11438-emoji-var.pdf)[b][c]	N4182 (https://www.unicode.org/wg2/docs/n4…

			L2/19-296R (https://www.unicode.org/L2/L2019/19296r-polar-bear.pdf)	
			L2/19-277R (https://www.unicode.org/L2/L2019/19277r-black-cat.pdf)	
			L2/19-292R4 (https://www.unicode.org/L2/L2019/19292r4-esc-recs-q3.pdf)	
			L2/19-270 (https://www.unicode.org/L2/L2019/19270.htm)	
	U+2B30..2B44	21	L2/05-318 (https://www.unicode.org/L2/L2005/05318-lazrek-overview.pdf)	
			L2/05-320 (https://www.unicode.org/L2/L2005/05320-lazrek-amds4l.pdf)	
			L2/06-125 (https://www.unicode.org/L2/L2006/06125-n3086.pdf)	N3086-1 (https://www.unicode.org/wg2/docs/ ww.unicode.org/wg2/docs/n3086.doc)
			L2/06-108 (https://www.unicode.org/L2/L2006/06108.htm)	
				N3103 (pdf (https://www.unicode.org/wg2/doc w.unicode.org/wg2/docs/n3103.doc))
				N3153 (pdf (https://www.unicode.org/wg2/doc w.unicode.org/wg2/docs/n3153.doc))
	U+2B47..2B4C	6	L2/07-170 (https://www.unicode.org/L2/L2007/07170-n3259.pdf)	N3259 (https://www.unicode.org/wg2/docs/n3
			L2/07-118R2 (https://www.unicode.org/L2/L2007/07118.htm)	
			L2/07-268 (https://www.unicode.org/L2/L2007/07268-n3253.pdf)	N3253 (pdf (https://www.unicode.org/wg2/doc w.unicode.org/wg2/docs/n3253.doc))
5.2	U+2B55..2B59	5		N3353 (pdf (https://www.unicode.org/wg2/doc w.unicode.org/wg2/docs/n3353.doc))
			L2/07-259 (https://www.unicode.org/L2/L2007/07259-japanese-tv.pdf)	
			L2/07-391 (https://www.unicode.org/L2/L2007/07391-n3341.pdf)	N3341 (https://www.unicode.org/wg2/docs/n3
			L2/08-077R2 (https://www.unicode.org/L2/L2008/08077r2-japanese-tv.pdf)	N3397 (https://www.unicode.org/wg2/docs/n3
			L2/08-128 (https://www.unicode.org/L2/L2008/08128-lancu-notes-2008-03-22.txt)	

			L2/08-158 (https://www.unicode.org/L2/L2008/08158-tv-symbol-cmt.txt)	
			L2/08-188 (https://www.unicode.org/L2/L2008/08188-n3468.pdf)	N3468 (https://www.unicode.org/wg2/docs/n3
			L2/08-077R3 (https://www.unicode.org/L2/L2008/08077r3-n3469.pdf)	N3469 (https://www.unicode.org/wg2/docs/n3
			L2/08-215 (https://www.unicode.org/L2/L2008/08215-tv-sym.html)	
			L2/08-289 (https://www.unicode.org/L2/L2008/08289-tv-sym.pdf)	
			L2/08-292 (https://www.unicode.org/L2/L2008/08292-symbols.pdf)	
			L2/08-307 (https://www.unicode.org/L2/L2008/08307-jtv-feedback.html)	
			L2/08-318 (https://www.unicode.org/L2/L2008/08318-n3453.pdf)	N3453 (pdf (https://www.unicode.org/wg2/doc w.unicode.org/wg2/docs/n3453.doc))
			L2/08-161R2 (https://www.unicode.org/L2/L2008/08161.htm)	
			L2/09-234 (https://www.unicode.org/L2/L2009/09234-n3603-wg2-54-min.pdf)	N3603 (pdf (https://www.unicode.org/wg2/doc w.unicode.org/wg2/docs/n3603.doc))
			L2/11-438 (https://www.unicode.org/L2/L2011/11438-emoji-var.pdf)[b][c]	N4182 (https://www.unicode.org/wg2/docs/n4
7.0	U+2B4D, 2B60..2B73, 2B76..2B95, 2B98..2BB9, 2BBD..2BC8, 2BCA..2BD1	107	L2/11-052R (https://www.unicode.org/L2/L2011/11052r-wingding.pdf)	
			L2/11-149 (https://www.unicode.org/L2/L2011/11149-webdings.pdf)	
			L2/11-196 (https://www.unicode.org/L2/L2011/11196-n4022-wingdings.pdf)	N4022 (https://www.unicode.org/wg2/docs/n4
			L2/11-247 (https://www.unicode.org/L2/L2011/11247-n4115-wingdings.pdf)	N4115 (https://www.unicode.org/wg2/docs/n4
			L2/11-344 (https://www.unicode.org/L2/L2011/11344-wingdings.pdf)	N4143 (https://www.unicode.org/wg2/docs/n4

				N4103 (https://www.unicode.org/wg2/docs/n4
			L2/12-130 (https://www.unicode.org/L2/L2012/12130-n4239.pdf)	N4239 (https://www.unicode.org/wg2/docs/n4:
				N4363 (https://www.unicode.org/wg2/docs/n4
			L2/12-368 (https://www.unicode.org/L2/L2012/12368-n4384.pdf)	N4384 (https://www.unicode.org/wg2/docs/n4
			L2/12-086 (https://www.unicode.org/L2/L2012/12086-n4223.pdf)	N4223 (https://www.unicode.org/wg2/docs/n4:
				N4353 (pdf (https://www.unicode.org/wg2/doc w.unicode.org/wg2/docs/n4353.doc))
				N4553 (pdf (https://www.unicode.org/wg2/doc w.unicode.org/wg2/docs/n4553..doc))
			L2/14-250 (https://www.unicode.org/L2/L2014/14250.htm)	
				N4739 (https://www.unicode.org/wg2/docs/n4
	U+2B4E..2B4F, 2B5A..2B5F	8	L2/10-357 (https://www.unicode.org/L2/L2010/10357r-n3914-lithuanian.pdf)	N3914 (https://www.unicode.org/wg2/docs/n3
			L2/11-135 (https://www.unicode.org/L2/L2011/11135-lithuanian.pdf)	
			L2/11-189 (https://www.unicode.org/L2/L2011/11189-lithuanian.txt)	
			L2/11-191 (https://www.unicode.org/L2/L2011/11191-lithuanian.pdf)	N4062 (https://www.unicode.org/wg2/docs/n4

			L2/11-116 (https://www.unicode.org/L2/L2011/11116.htm)	
			L2/11-223 (https://www.unicode.org/L2/L2011/11223-n4070.pdf)	N4070 (https://www.unicode.org/wg2/docs/n4
			L2/11-248 (https://www.unicode.org/L2/L2011/11248-n4116-lithuanian-adhoc.pdf)	N4116 (https://www.unicode.org/wg2/docs/n4
				N4103 (https://www.unicode.org/wg2/docs/n4
			L2/12-130 (https://www.unicode.org/L2/L2012/12130-n4239.pdf)	N4239 (https://www.unicode.org/wg2/docs/n4
8.0	U+2BEC..2BEF	4	L2/12-303 (https://www.unicode.org/L2/L2012/12303-four-arrows-n4318.pdf)	N4318 (https://www.unicode.org/wg2/docs/n4
			L2/13-028 (https://www.unicode.org/L2/L2013/13028-script-rept.pdf)	
			L2/13-011 (https://www.unicode.org/consortium/utc-minutes/UTC-134-201301.html)	
				N4403 (pdf (https://www.unicode.org/wg2/doc w.unicode.org/wg2/docs/n4403.doc))
10.0	U+2BD2	1	L2/15-083 (https://www.unicode.org/L2/L2015/15083r-group-mark.pdf)	
			L2/15-149 (https://www.unicode.org/L2/L2015/15149-script-rec.pdf)	
			L2/15-107 (https://www.unicode.org/L2/L2015/15107.htm)	
11.0	U+2BBA..2BBC, 2BF9..2BFE	9	L2/17-033R2 (https://www.unicode.org/L2/L2017/17033r2-n4783r2-chess-notation.pdf)	N4783R2 (https://www.unicode.org/wg2/docs/

			L2/17-016 (https://www.unicode.org/L2/L2017/17016.htm)	
			L2/17-222 (https://www.unicode.org/L2/L2017/17222.htm)	
				N4953 (pdf (https://www.unicode.org/wg2/doc doc (https://www.unicode.org/wg2/docs/n4953
			L2/17-353 (https://www.unicode.org/L2/L2017/17353-wg2-consent-docket.pdf)	
			L2/17-362 (https://www.unicode.org/L2/L2017/17362.htm)	
			L2/18-115 (https://www.unicode.org/L2/L2018/18115.htm)	
	U+2BD3..2BD6	4	L2/16-156 (https://www.unicode.org/L2/L2016/16156-script-recs.pdf)	
			L2/16-121 (https://www.unicode.org/L2/L2016/16121.htm)	
			L2/16-067R (https://www.unicode.org/L2/L2016/16067r-astrological-plutos.pdf)	
				N4873R (pdf (https://www.unicode.org/wg2/do doc (https://www.unicode.org/wg2/docs/n4873
			L2/16-325 (https://www.unicode.org/L2/L2016/16325.htm)	
	U+2BD7..2BDF	9	L2/16-156 (https://www.unicode.org/L2/L2016/16156-script-recs.pdf)	
			L2/16-080 (https://www.unicode.org/L2/L2016/16080r-add-astrology.pdf)	
			L2/16-216 (https://www.unicode.org/L2/L2016/16216-script-ad-hoc.pdf)	

			L2/16-203 (https://www.unicode.org/L2/L2016/16203.htm)	
				N4873R (pdf (https://www.unicode.org/wg2/dd doc (https://www.unicode.org/wg2/docs/n487:
			L2/16-325 (https://www.unicode.org/L2/L2016/16325.htm)	
	U+2BE0..2BE7	8	L2/16-064R (https://www.unicode.org/L2/L2016/16064r-uranian-planets.pdf)	
			L2/16-156 (https://www.unicode.org/L2/L2016/16156-script-recs.pdf)	
			L2/16-121 (https://www.unicode.org/L2/L2016/16121.htm)	
				N4873R (pdf (https://www.unicode.org/wg2/dd doc (https://www.unicode.org/wg2/docs/n487:
	U+2BE8..2BEB	4	L2/16-186 (https://www.unicode.org/L2/L2016/16186-half-stars.pdf)	
			L2/16-216 (https://www.unicode.org/L2/L2016/16216-script-ad-hoc.pdf)	
			L2/16-230 (https://www.unicode.org/L2/L2016/16230-half-star-unicode.pdf)	
			L2/16-203 (https://www.unicode.org/L2/L2016/16203.htm)	
			L2/16-254 (https://www.unicode.org/L2/L2016/16254-n4747-halfstars.pdf)	N4747 (https://www.unicode.org/wg2/docs/n4
				N4873R (pdf (https://www.unicode.org/wg2/dd doc (https://www.unicode.org/wg2/docs/n487:
			L2/16-325 (https://www.unicode.org/L2/L2016/16325.htm)	
	U+2BF0..2BF2	3	L2/16-216 (https://www.unicode.org/L2/L2016/16216-script-ad-hoc.pdf)	
			L2/16-342 (https://www.unicode.org/L2/L2016/16342-script-ad-hoc.pdf)	

			L2/16-173R (https://www.unicode.org/L2/L2016/16173r-eris-sedna.pdf)	N4801 (https://www.unicode.org/wg2/docs/n4
			L2/16-325 (https://www.unicode.org/L2/L2016/16325.htm)	
			L2/17-016 (https://www.unicode.org/L2/L2017/17016.htm)	
	U+2BF3..2BF8	6	L2/16-174R (https://www.unicode.org/L2/L2016/16174r-astrology-aspects.pdf)	
			L2/16-342 (https://www.unicode.org/L2/L2016/16342-script-ad-hoc.pdf)	
			L2/16-325 (https://www.unicode.org/L2/L2016/16325.htm)	
			L2/17-037 (https://www.unicode.org/L2/L2017/17037-script-ad-hoc.pdf)	
			L2/17-016 (https://www.unicode.org/L2/L2017/17016.htm)	
			L2/17-020R2 (https://www.unicode.org/L2/L2017/17020r2-fdbk-extra-aspect-sym.pdf)	N4811 (https://www.unicode.org/wg2/docs/n4 f)
12.0	U+2BC9	1	L2/17-191R (https://www.unicode.org/L2/L2017/17191r-neptune-second-form.pdf)	N4863 (https://www.unicode.org/wg2/docs/n4 orm.pdf)
			L2/17-255 (https://www.unicode.org/L2/L2017/17255-script-ad-hoc.pdf)	
			L2/17-222 (https://www.unicode.org/L2/L2017/17222.htm)	
				N4953 (pdf (https://www.unicode.org/wg2/doc doc (https://www.unicode.org/wg2/docs/n4953

	U+2BFF	1	L2/17-151R (https://www.unicode.org/L2/L2017/17151r-hell-pause-char.pdf)	N4864 (https://www.unicode.org/wg2/docs/n4 df)
			L2/17-255 (https://www.unicode.org/L2/L2017/17255-script-ad-hoc.pdf)	
			L2/17-222 (https://www.unicode.org/L2/L2017/17222.htm)	
				N4953 (pdf (https://www.unicode.org/wg2/doc doc (https://www.unicode.org/wg2/docs/n4953
13.0	U+2B97	1	L2/99-353 (https://www.unicode.org/L2/L1999/99353-n2056.pdf)	N2056 (https://www.unicode.org/wg2/docs/n2
			L2/99-380 (https://www.unicode.org/L2/L1999/99380.htm)	
			L2/99-380.3 (https://www.unicode.org/L2/L1999/J1n599903.pdf)	
			L2/00-084 (https://www.unicode.org/L2/L2000/00084-n2182.pdf)	N2182 (https://www.unicode.org/wg2/docs/n2
			L2/00-285 (https://www.unicode.org/L2/L2000/00285-n2244.pdf)	N2244 (https://www.unicode.org/wg2/docs/n2
				N2282 (https://www.unicode.org/wg2/docs/n2
			L2/01-349 (https://www.unicode.org/L2/L2001/01349-N2374-DPRK-AddSymbols.pdf)	N2374R (https://www.unicode.org/wg2/docs/n
			L2/01-388 (https://www.unicode.org/L2/L2001/01388-n2392.pdf)	N2392 (https://www.unicode.org/wg2/docs/n2
			L2/18-004 (https://www.unicode.org/L2/L2018/18004-compat-dprk.pdf)	
			L2/18-017 (https://www.unicode.org/L2/L2018/18017-encl-postal-mark.pdf)	
			L2/18-007 (https://www.unicode.org/L2/L2018/18007.htm)	
			L2/18-058 (https://www.unicode.org/L2/L2018/18058-postal-mark-triangle.pdf)	

			L2/18-168 (https://www.unicode.org/L2/L2018/18168-script-rec.pdf)	
			L2/18-115 (https://www.unicode.org/L2/L2018/18115.htm)	
			L2/18-184R (https://www.unicode.org/L2/L2018/18184r-symbol-for-type-a-elec.pdf)	N5009 (https://www.unicode.org/wg2/docs/n5 -elec.pdf)
			L2/18-241 (https://www.unicode.org/L2/L2018/18241-script-ad-hoc.pdf)	
			L2/18-183 (https://www.unicode.org/L2/L2018/18183.htm)	

a. Proposed code points and characters names may differ from final code points and names

b. See also L2/10-458 (https://www.unicode.org/L2/L2010/10458-emoji-var.pdf), L2/11-414 (https://www.unicode.org/L2/L2011/11414-emoji-var-seq.pdf), L2/11-415 (https://www.ur L2/11-429 (https://www.unicode.org/L2/L2011/11429-emoji-var-seq-list.pdf)

c. Refer to the history section of the Miscellaneous Symbols and Pictographs block for additional emoji-related documents

See also

- Mathematical operators and symbols in Unicode

References

1. "Unicode character database" (https://www.unicode.org). *The Unicode Standard*. Retrieved 2016-07-09.
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4. "UCD: Emoji Data for UTR #51" (https://unicode.org/Public/UNIDATA/emoji/emoji-data.txt). Unicode Consortium. 2021-08-26.
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