



Errata for *The Nemeth Braille Code for Mathematics and Science Notation 2022*

Issued by the Braille Authority of North America

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This list of errata contains known corrections and clarifications that should be made to the publication *The Nemeth Braille Code for Mathematics and Science Notation 2022* as posted in 2024.

The errata approved in August 2024 has been worked into this document, *Approved August 2024* precedes the relevant material. In a few cases, the format of the previous errata material has been cleaned up or expanded to show the entire example so that users may be able to cut and paste into printed documents.

Table of Changes

Rule	Page	Change
Rule 3: 3.3.1	3-4	Commentary to Example 3-13 corrected (<i>Print and BRF</i>)
Rule 3: 3.3.1	3-4	Braille in Example 3-16 corrected (<i>Print and BRF</i>)
Rule 3: 3.4.3	3-14	Print in Example 3-62 corrected (<i>Print</i>)
Rule 3: 3.5.2	3-16	Heading to Example 3-70 corrected (<i>Print</i>)
Rule 3: 3.6.2	3-20	Heading to Example 3-89 corrected (<i>Print</i>)
Rule 4: 4.2	4-1	Rule updated and example added (<i>Print and BRF</i>) <i>Approved August 2024</i>
Rule 4: 4.5.3	4-8	Braille in Example 4-21 corrected (<i>Print and BRF</i>) <i>Approved August 2024</i>
Rule 4: 4.6.8.c	4-16	Rule updated (<i>Print and BRF</i>) <i>Approved August 2024</i>
Rule 4: 4.8.2	4-19	Wording clarified and example added. (<i>Print and BRF</i>)
Rule 6: 6.4.2	6-9	Wording clarified (<i>Print and BRF</i>)
Rule 7: 7.2.1	7-2	Cross-reference added (<i>Print and BRF</i>)
Rule 7: 7.3.3	7-5	Paragraph heading and two examples added (<i>Print and BRF</i>)
Rule 7: 7.3.5	7-6	Braille in Example 7-19 corrected (<i>Print and BRF</i>)
Rule 8: 8.2.4	8-3	Rule updated (<i>Print and BRF</i>)
Rule 8: 8.2.13	8-7	Heading to Example 8-21 corrected (<i>Print and BRF</i>) <i>Approved August 2024</i>

Rule 8: 8.2.16	8-8	Heading and commentary to Example 8-26 corrected (<i>Print and BRF</i>) Approved August 2024
Rule 8: 8.8.2	8-15	Heading to Example 8-64 updated (<i>Print and BRF</i>)
Rule 8: 8.8.2	8-15	Commentary added to Example 8-65 (<i>Print and BRF</i>)
Rule 9: 9.1	9-1	Rule edited to add recommendation for a checkmark (<i>Print and BRF</i>) Approved August 2024
Rule 9: 9.3.2	9-3	Braille in Example 9-4 corrected (<i>Print</i>) Approved August 2024
Rule 10: 10.1.1.a	10-1	Heading to Example 10-2 corrected (<i>Print and BRF</i>) Approved August 2024 Remove from approved errata
Rule 10: 10.1.1.a	10-1	Heading to Example 10-4 corrected (<i>Print and BRF</i>) Approved August 2024 Remove from approved errata
Rule 10: 10.6.1	10-9	Commentary to Example 10-49 corrected (<i>Print and BRF</i>) Approved August 2024
Rule 10: 10.6.3	10-11	Wording clarified (<i>Print and BRF</i>)
Rule 11: 11.1.4	11-3	Rule edited Approved August 2024
Rule 15: 15.2.1	15-4	Print and braille in Example 15-8 corrected (<i>Print and BRF</i>)
Rule 15: 15.7	15-12	Print in Example 15-45 corrected (<i>Print</i>)
Rule 15: 15.7	15-12	Print in Example 15-46 corrected (<i>Print</i>)
Rule 17: 17.1 Special Considerations c.	17-6	Wording clarified (<i>Print and BRF</i>) Approved August 2024
Rule 20: 20.6	20-9	Heading to Example 20-36 corrected (<i>Print and BRF</i>)

Rule 23: symbol list	23-1	Symbol added (<i>Print and BRF</i>)
Rule 23: 23.4	23-3	Rule edited and example added (<i>Print and BRF</i>)
Rule 23: 23.13	23-9	Rule edited (<i>Print and BRF</i>)
Rule 23: 23.17	23-13	Braille in Example 23-48 corrected (<i>Print and BRF</i>)
Rule 24: 24.1.e	24-2	Sub-section and examples deleted (<i>Print and BRF</i>)
Rule 25: 25.3.3	25-2	Rule edited and example added (<i>Print and BRF</i>)
Rule 25: 25.3.4	25-8	Print in Example 25-11 edited (<i>Print</i>)
Rule 25: 25.8.2.b	25-43	Example cross-reference corrected (<i>Print and BRF</i>)
Rule 25: 25.8.2.c	25-43	Example cross-reference corrected (<i>Print and BRF</i>)
Rule 25: 25.10	25-55	Print in Example 25-77 corrected (<i>Print</i>)
Rule 26: 26.1.4.b	26-8	Braille in Example 26-13 corrected; commentary added (<i>Print and BRF</i>)
Rule 26: 26.3.5	26-17	Commentary to Example 26-28 updated (<i>Print and BRF</i>)
Rule 26: 26.5.3.b	26-29	Print in Example 26-50 corrected (<i>Print</i>)
Appendix B	B-1	Rule edited (<i>Print and BRF</i>)
Appendix D	D-27	Symbol added (<i>Print and BRF</i>)
Appendix D	D-32	Symbol removed (<i>Print and BRF</i>)

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Location: P. 4-16, §4.6.8.c – *Print and BRF*

Rationale: It is not stated in the updated Code that no contractions should be used within the switches. The following correction is made:

4.6.8 **Words.**

- c. **The Single-Word Switch Indicator.** When only one narrative word, hyphenated word, or abbreviation occurs between two Nemeth expressions or symbols, the single-word switch indicator (⠈⠈⠈) is used to indicate that the word is in UEB. This is also applied within an uncontracted transcription. The indicator is unspaced from the affected word. Contractions are used in the subsequent word as needed. The indicator is used whether or not the word contains contractions. A UEB typeform indicator may be used with a word that is preceded by the single-word switch indicator. The effect of the single-word switch indicator is terminated by a space.

The single-word switch indicator cannot be used on words joined by a slash or separated by a dash. See examples **4-41** and **4-42**. The single-word switch cannot be used immediately before a UEB grouping symbol or quotation mark. See example **4-52**.

Location: P. 4-19, §4.8.2 – *Print and BRF*

Rationale: Wording has been added to **4.8.2** to further clarify the placement of Nemeth Code switch indicators with embedded mathematical material. An example has also been added.

4.8.2 **Placement of Switches with Embedded Mathematical Material.** If the mathematical material and its switch indicators with any attached punctuation will fit on one braille line within current margins, this is the preferred layout. If not, the priority is to not divide the math expression. When only one code switch indicator will fit on the line with the math expression, either indicator may be placed on the line with the math. That is, the opening Nemeth Code indicator may be placed on the previous line, and/or the Nemeth Code terminator may be placed on the following line in the runover position. The terminator and related punctuation may be placed on the following line if there is not room on the line with the math expression. Text and switch indicators are aligned with the main line in an embedded spatial expression. See **26.6.2** for details.

Example: Placement of Terminator in Runover Position

The set of integers from -4 to 5 : $\{-4, -3, -2, -1, 0, 1, 2, 3, 4, 5\}$

[illegible]

Rule 6

Alphabets

Location: P. 6-9, §6.4.2 – *Print and BRF*

Rationale: Wording has been clarified to reflect the correct terminology for the abbreviation of a function name; change to:

6.4.2 **Function Names.** An English-letter indicator is not used with a letter that follows a function name or its abbreviated form.

Rule 7

Typeforms

Location: P. 7-2, §7.2.1 – *Print and BRF*

Rationale: A cross-reference to **7.3.3** for letter(s) in a hyphenated expression has been added to the end of the paragraph. Change to:

- 7.2.1 **Letters.** Subject to the provisions of **7.4**, if typeform is retained, the appropriate typeform indicator is used to express the typeform of a letter. The typeform indicator for a letter must always be followed by an alphabetic indicator. When a typeform indicator is used with letters, its effectiveness extends only to the letter which follows it. Thus, except for regular type, a typeform indicator is used with each individual letter of a sequence of letters. See **7.3.3** for letter(s) as part of a hyphenated expression.

Rule 9

Reference Signs, Symbols, and Icons

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Location: P. 9-1, §9.1 – *Print and BRF*

Rationale: The original Nemeth Code provided for a checkmark in **Rule 23 Miscellaneous Signs and Symbols**. When the Nemeth Code update was created, this symbol was inadvertently omitted. The question arose: should the checkmark be reinstated? Use of a checkmark symbol might entail a necessary switch in and out of Nemeth Code. In order to avoid frequent switching to accommodate a checkmark symbol, the following decision was made:

9.1 Reference Signs and Symbols

Within the Nemeth Code switches, the reference signs of this section must be represented by the symbols listed above and Unified English Braille symbols must not be used. Some of these signs are also used as signs of operation and in that case the rules governing signs of operation apply (see **Rule 20**). When it is certain that a symbol in the above list is to be used for reference purposes, the superscript position, if indicated in print, must be ignored in the transcription.

When a reference sign occurs for which no provision exists in this Code, such as pictures, icons, etc., the transcriber must devise a suitable symbol with an explanatory transcriber's note or a listing in the Special Symbols list. Whether a reference symbol exists in the Nemeth Code or has been devised by the transcriber, such symbols are subject to the rules for signs and symbols of reference. If an icon is created, it would be used in all contexts and the UEB symbol would not be used.

Note: There is no listed symbol for a checkmark. It is recommended that this print sign be represented by a shape indicator followed by the letters "cm" (: : :: : : :: : :). This

Rule 11

Omissions

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Location: P. 11-3, §11.1.4 – *Print and BRF*

Rationale: Remove the redundant wording “inside the switches” from the last sentence.

11.1.4 **Spacing and Punctuation.** An omission symbol should be spaced in the same manner as the material which it replaces. Other omission symbols must be spaced in accordance with the rules governing the spacing of those symbols, such as an ellipsis or long dash. An omission symbol is punctuated mathematically.

Rule 17

Shapes

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Location: P. 17-6, §17.1 Special Considerations: c. – *Print and BRF*

Rationale: Wording changed to specify standard bullets. Change to:

17.1 Basic Shapes

Special Considerations:

- c. Standard bullets (⋮) are not considered to be shapes and may be transcribed in either UEB or Nemeth context without the use of switch indicators.

Rule 24

Multipurpose Indicator

Location: P. 24-2, §24.1.e – *Print and BRF*

Rationale: The Nemeth Code Technical Committee recommends that **24.1.e** be removed from the Nemeth Code. 1) The fraction line is no longer considered an operation symbol. 2) The multipurpose indicator is not used between every consecutive sign of operation; it is only used between plus and minus signs when they are combined either vertically or horizontally. See **20.6**. Delete subsection **24.1.e** and the accompanying examples.

24.1 Use of the Multipurpose Indicator

e. (Section and examples deleted).

Spatial Arrangements

Location: P. 25-2, §25.3.3 – *Print and BRF*

Rationale: Wording has been added to **25.3.3** to clarify the placement of monetary symbols when printed to the right of numbers. An example has been added.

25.3.3 Plus, minus, or monetary symbols that are typically printed to the left of numbers (e.g., \$100 or ¥5000) are placed one column of cells to the left of the left-most column of numeric symbols or indicators which appear in the part of the arrangement above the separation line.

Monetary symbols that are typically printed to the right of a number (e.g., 5¢ or 100€) are placed one column of cells to the right of the right-most column of numeric symbols or indicators which appear in the part of the arrangement above the separation line.

Example: Monetary Sign Printed to the Right

$$\begin{array}{r} 7 12 \\ 82 \text{ ¢} \\ - 47 \text{ ¢} \\ \hline 35 \text{ ¢} \end{array}$$

Location: P. 26-29, §26.5.3.b, Example 26-50 – *Print Only*

Rationale: In converting the Word document to PDF format, a box was inadvertently added to the end of the print example. Change print to:

Example 26-50: Nested Links Displayed to Main Item

33. Using the binomial theorem to find 1.1^5 to three decimal places, we see that

$$\begin{aligned} 1.1^5 &= (1 + 0.1)^5 \\ &= 1^5 + 5(1^4)(0.1) + 10(1^3)(0.1)^2 + 10(1^2)(0.1)^3 \\ &\quad + 5(1)(0.1)^4 + (0.1)^5 \\ &= 1 + 0.5 + 0.1 + 0.01 + 0.0005 + 0.00001 \\ &= 1.61051 \end{aligned}$$

Braille representation of the equation above, showing nested links for the binomial theorem expansion.

(the margins for the nested displayed material are 5-9, 7-9)

Appendix B

Placement of Code Switch Indicators

Location: P. B-2 – *Print and BRF*

Rationale: Regarding switch indicators with itemized material, it was requested that the exceptions of the opening Nemeth Code switch indicator placement following transcriber's notes and centered headings be more clearly stated in **Appendix B**. Replace the fourth sentence with:

Exceptions: The opening Nemeth Code indicator cannot be placed in the runover position of a transcriber's note or at the end of a centered heading.

Switch Indicators with Itemized Material

Identifiers are transcribed according to the rules for the code in use at the time. All identifiers in a section do not need to be transcribed in the same code. To ensure that all identifiers begin in the same cell, the opening Nemeth Code indicator is placed at the end of the line of text that precedes the itemized material unless there is no room on that line, in which case it is placed in the runover position. **Exceptions:** The opening Nemeth Code indicator cannot be placed in the runover position of a transcriber's note or at the end of a centered heading. A code switch indicator does not take the place of the blank line that may be required preceding the itemized material.

Appendix D

Index of Nemeth Braille Symbols

Location: P. D-27 – *Print and BRF*

Rationale: Add the crossed d (d-bar) symbol to the **Index of Nemeth Braille Symbols**.

Braille	Meaning	Print	Page
⠠⠠⠠⠠⠠⠠	crossed d (d-bar)	$\bar{d}$	23-1, 23-3

Location: P. D-32 – *Print and BRF*

Rationale: Delete the opening Nemeth Code indicator from the Index of Nemeth Braille Symbols, this is a UEB symbol.