

## LESSON 1

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### *Format*

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### LESSON PREVIEW

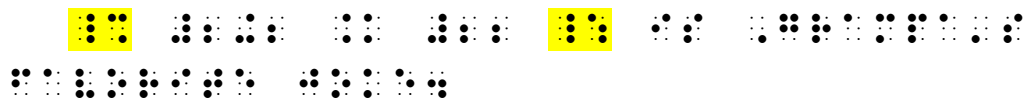
Introduction to the rules regarding code switching and use of code switch indicators. The hyphen and the short dash are studied. Three signs of omission are introduced: the ellipsis, the long dash, and the general omission symbol. Two Nemeth formats are illustrated: 3-1 narrative and 1-3 itemized material.

*Do not begin Lesson 1 until you have completed the Preliminary Lesson.*



Example 1-2

2 + 2 = 22 is Grampa's favorite joke.

**PRACTICE 1A**

*Instructions:* Begin each sentence in cell 3, with runovers in cell 1. Compare your transcription to the answers at the end of this lesson. (Read about the practice material in the Preliminary Lesson on page P-4.)

What does  $16 + 4 + 100$  equal?

If  $10 \times 10 \times 10 = 1,000$  what does  $10 \times 10 \times 10 \times 10$  equal?

Does  $5 \div 2$  name a whole number?

% ("percent") means parts per hundred; ‰ ("per mille") means parts per thousand.

### 1.3 Which Code?

- 1.3.1 **UEB Required.** Page numbers and labels to figures, tables, sections, etc. are transcribed in UEB. Examples are shown in Section P3.1 of the Preliminary Lesson. Here is another example that does not require code switching.

Example 1-3

To prepare for tomorrow's quiz, review Chapters 3-4 and Table 3.1.7 on page T14.

2014 2014 2014 2014 2014 2014 2014 2014  
 2014 2014 2014 2014 2014 2014 2014 2014

- 1.3.2 **UEB Allowed.** In order to avoid excessive code switching, some "math" items are allowed to be transcribed in UEB when the surrounding text is UEB. Numbers may be transcribed in UEB if (and only if) the number is freestanding and unmodified. ("Unmodified" in this context means there is no mathematical symbol associated with the number such as a monetary symbol, percent sign, minus sign, or decimal point.)

The definition of "freestanding" numbers includes numbers with internal commas, with an ordinal ending, or with a plural ending such as "s" or "apostrophe-s". This applies to incidental numbers encountered in narrative, as well as to freestanding numbers in a word problem. When the surrounding text is UEB, there is no need to switch to Nemeth for such numbers. (This rule does not apply if a long number must be divided. See [Section 1.7.1](#).)

Example 1-4

A scale model of the *Nautilus* as depicted in the 1954 Disney film *20,000 Leagues Under the Sea* is shown in the 1st drawing in §5.7.

1 2014 2014 2014 2014 2014 2014 2014 2014  
 2 2014 2014 2014 2014 2014 2014 2014 2014  
 3 2014 2014 2014 2014 2014 2014 2014 2014  
 4 2014 2014 2014 2014 2014 2014 2014 2014

*Line 2: The number with the internal comma is transcribed in UEB.*

*Line 3: The ordinal is transcribed in UEB.*

*Line 4: The UEB section sign is used for the section reference.*









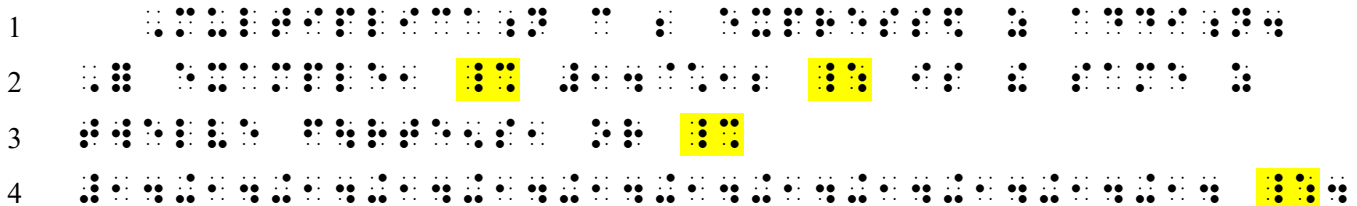




1.5.2 **A Switch Indicator May Stand Alone on a Line.** If a math expression will fit on one line but there is not room for one or both of the switch indicators, one or both switch indicators may stand alone on a line. Keeping the mathematical expression intact is the priority. Several layouts are illustrated below.

Example 1-18

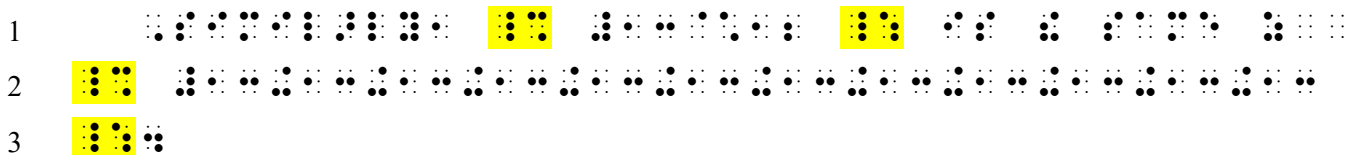
Multiplication can be expressed as addition. For example,  $14 \times 12$  is the same as twelve fourteens, or  $14 + 14 + 14 + 14 + 14 + 14 + 14 + 14 + 14 + 14 + 14 + 14$ .



*Line 3: The opening Nemeth Code indicator is placed on the line before the long expression.*

Example 1-19

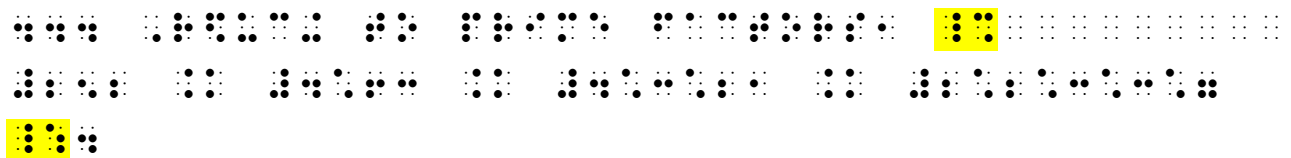
Similarly,  $13 \times 12$  is the same as  $13 + 13 + 13 + 13 + 13 + 13 + 13 + 13 + 13 + 13 + 13 + 13 + 13$ .



*Line 1: The opening Nemeth Code indicator does not fit on the line.  
Line 2: There is not room for the Nemeth Code terminator after the long expression.  
Line 3: The Nemeth Code terminator (along with the related period) falls here.*

Example 1-20

... Reducing to prime factors,  $252 = 4 \cdot 63 = 4 \cdot 3 \cdot 21 = 2 \cdot 2 \cdot 3 \cdot 3 \cdot 7$ .



*Because the expression takes up the full available line width, both the opening Nemeth Code indicator and the Nemeth Code terminator must be placed on separate lines.*

*Note:* A sign of comparison links the symbols on the left side of the comparison sign with the symbols on the right side of the comparison sign and so is considered to be one mathematical



Switch indicators at print page turns will be discussed in Lesson 3

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### PRACTICE 1C

*Instructions:* Begin each paragraph in cell 3 with runovers in cell 1.

I have a coupon for 15%, 20%, 40%, and three for 50% off!

How many squares can you find on an  $8 \times 8$  checkerboard? (*Hint:* There are more than 64 squares.) First determine how many  $1 \times 1$  squares, then how many  $2 \times 2$  squares, and so on, you can find.

$12 \times 11$  is also the same as twelve elevens, or  $11 + 11 + 11 + 11 + 11 + 11 + 11 + 11 + 11 + 11 + 11 + 11$ .

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## *SIGNS OF OMISSION*


### 1.8 General Rules Regarding Signs of Omission

Omission of mathematical or literary material may be shown by dots, a low line (underscore), a blank space, a question mark, or a combination of these or other signs devised by the author. Unless otherwise stated, the omission symbol used in braille should correspond to the print sign.

An omission symbol is a non-numeric symbol even if it represents a missing numeral. A numeric indicator is not used to suggest the nature of the omitted material. Inside the switches, an omission symbol is punctuated mathematically with the dot 6 comma.

### 1.9 Ellipsis

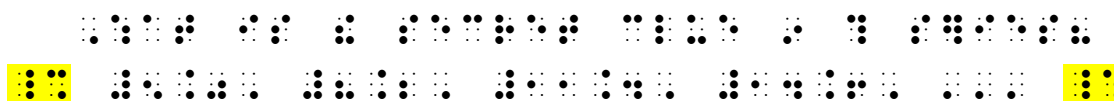
An ellipsis is a series of dots which represent an omission. In Nemeth context, the ellipsis of the Nemeth code is transcribed. Three dot 3s represent the Nemeth ellipsis, regardless of how many dots are used in print. (One exception will be presented in Lesson 17 for ellipses within an array.) Spacing rules are discussed in [Section 1.12](#). Note that, in mathematics, the ellipsis may be printed on the midline. This will be addressed in Lesson 2.

 Ellipsis ...
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In UEB context, the UEB ellipsis is transcribed.

#### *Example 1-35*

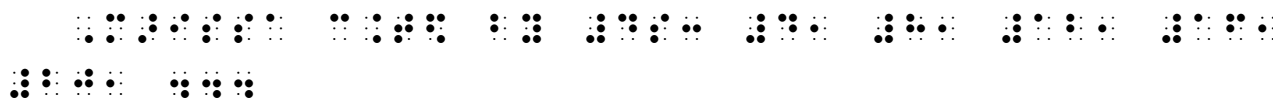
What is the secret clue in this series? 5.0, 8.2, 11.4, 14.6, ...



*The Nemeth ellipsis is used inside the switches.*

#### *Example 1-36*

Marissa counted by 4s: 4, 8, 12, 16, 20, ...



*The UEB ellipsis is used outside the switches.*









## *Format*

### 1.14 Paragraph Margins for Narrative Portions of Text (3-1)

The Nemeth code states that each paragraph begins in cell 3, with runovers in cell 1. Nemeth formats are applied throughout a Nemeth transcription, including the UEB portions of text. If the print copy uses blocked paragraphing style, the transcriber must follow Nemeth format rules and begin each new paragraph in cell 3. There is no blank line inserted between paragraphs unless another situation requires a blank line according to *Braille Formats* or according to other Nemeth formats yet to be studied.

- 1.14.1 **Code Switching Between Paragraphs.** Nemeth stays in effect between paragraphs. When a paragraph ends in Nemeth, do not terminate Nemeth when the next paragraph begins in Nemeth.

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### PRACTICE 1F

*Instructions:* Treat the marginal heading as a cell-5 heading.

**Numerical Prefixes** Here are some examples of numeral prefixes: "Tetra-" means 4; "hexa-" means 6; "hepta-" means 7; "deca-" means 10; "dodeca-" means 12.

If a *dodecagon* is a 12-sided figure, a *dodecahedron* is a \_\_-faced solid. A 10-faced solid is called a \_\_\_\_\_.

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**FORMAT SUMMARY #1**

Here is a summary of the Nemeth formats encountered so far in this course.

General Principles When an item in a UEB transcription requires the use of Nemeth symbols, format rules of The Nemeth Braille Code for Mathematics and Science Notation are to be applied to the entire transcription including those portions transcribed in UEB. When a format is not specifically addressed in the Nemeth code, the principles provided in *Braille Formats* should be followed.

Mathematical Expressions—Keep Together If a mathematical expression will fit on one braille line within the current margins, it must not be divided between lines. The entire expression is brought down to the next line.

Paragraph Margins for Narrative Portions of Text (3-1) Paragraphs begin in cell 3 and are run over in cell 1. Blocked paragraphing is not used in a Nemeth transcription.

Margins for Itemized Material with No Subdivisions (1-3) The identifier begins in cell 1; runovers begin in cell 3. If the material contains more than one paragraph, each subparagraph begins in cell 5 with runovers in cell 3. A blank line is inserted before and after a set of itemized exercise material according to *Braille Formats* guidelines. An itemized exercise problem should not be divided between braille pages.

Placement of Code Switch Indicators with an Embedded Math Expression Place the entire math expression and the two code switch indicators on the same braille line if they will fit within the current margins. If the entire string will not fit on one line, a switch indicator may stand alone on a line to allow the math expression to remain undivided. When a code switch occurs at a braille page turn, the switch indicator is placed on the same braille page as the mathematical material to which it applies.

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*For further practice, see Addendum 1—Reading Practice.*

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**THE EXERCISES**

Lessons 1-18 end with an exercise which you will prepare and submit to your instructor for grading. Exercise 1 was given to you with your acceptance into this program.

Instructions for preparation of the exercises are given on the next page.

Submit Exercise 1 to your instructor.
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## INSTRUCTIONS FOR PREPARING THE EXERCISES

*The exercises should be prepared independently, without conferring with others.*

Prepare each exercise as follows:

- (1) Use a 40-cell line and 25 lines per page.
- (2) Do not use a running head.
- (3) Include the print page number on every page. Use the page number shown at the bottom of each exercise page. Insert page change indicators as needed. The upper-cell numerals of UEB are used for page number designations.
- (4) Include a braille page number on every page, starting each lesson exercise with braille page number 1. The upper-cell numerals of UEB are used for page number designations.
- (5) Instructions for the transcriber may precede the exercise material itself. Do not transcribe those instructions.
- (6) Transcribe the EXERCISE heading on line 1. Center that heading.
- (7) Use as much of the braille line as possible, following appropriate format rules regarding margins and regarding items which should not be divided between lines. Do not divide words. Do not divide hyphenated compound words.
- (8) Do not divide an itemized problem between braille pages. Do not allow an identifier to stand alone at the bottom of a braille page.
- (9) Include your name after a blank line on the last page of the exercise.

Note Your application of the rules of UEB and *Braille Formats* are also being evaluated. Assume that there are no "agency preferences". Rules or guidelines given as "preferable" are to be considered required for purposes of this course.

Tips Review the Study Tips at the end of the Preliminary Lesson. Use a magnifier when print is small. Use a straightedge when levels are difficult to determine.

About e-files If you send electronic files, include your name and date in the filename.

*Example: LastnameInitials Ex# Date*  
HobartEW Ex1 3-25-24

Submit Exercise 1 as a BRF file. Once you are assigned a grader, another file type may be permitted. If you are asked to continue to send BRF files, be sure to make any corrections in your original file; then use "SaveAs" to send the corrected file in BRF format for your grader.

## GRADING GUIDELINES

Your transcriptions will be scored according to a modified version of the guidelines used by the certification test graders. This policy has been proven to be the best way to prepare for the certification test as it enables you to become aware of the level of accuracy required for certification in UEB with Nemeth. It also provides a way for you to track your progress.

You will be doing your own proofreading and studying before being told exactly what your errors are. By following this system, you will develop skills in recognizing problems and researching solutions. Many students also notice a marked improvement in their proofreading skills.

Your lesson exercises and your test will be scored according to the rules of the most current edition of *The Rules of Unified English Braille*, *Braille Formats Principles of Print-to-Braille Transcription*, and *The Nemeth Braille Code for Mathematics and Science Notation* as well as any Updates which apply to these three publications.

Here is what you can expect from the report.

### 1 Your first submission:

If your score is **90** or better, you have passed the lesson.

If your score is **70** or better, a detailed report will list your errors by LINE NUMBER. The TYPE of error will be given. Sections of the lesson manual or the code books may be cited for you to review. Examples of error types are on the next page. When you edit your file, pay particular attention to format issues that may occur if lineage is affected.

If your score is less than 70, you will not receive a report. You will be asked to re-submit the lesson exercise after doing a careful review and making necessary corrections.

### 2 Your second submission:

If your score is **90** or better, you have passed the lesson.

If your score is **80** or better, a report will be prepared listing your errors by LINE NUMBER. The TYPE of error will be given. Sections of the lesson manual or the code books may be cited for you to review. Examples of error types are on the next page.

If your score is less than 80, you will not receive a report. You will be asked to re-submit the lesson exercise after doing a careful review and making necessary corrections.

### 3 Your third submission:

If your score is **90** or better, you have passed the lesson.

If your score is less than 90, you will be removed from the course and may request re-entry after a 6 month waiting period.

To pass the lesson exercise in only three submissions, you need to be confident in your understanding of the material and your proofreading skills need to be sharp. If you are using braille software to prepare your transcription, your editing skills regarding lineage and pagination need to be meticulous.

Take the time to study the material carefully. Take advantage of the practice drills and reading exercises. Ask questions about rules that don't make sense to you, even if you transcribed the problem correctly.

It is a large leap from the final lesson to the certification test and the bar is high. To achieve certification, you must receive a score of 80 or better on the test. As with your literary trial manuscript, this allows for an average of one error every three or four pages. By grading your lesson exercises in a similar manner, you will be better aware of the quality of work needed to pass the test as you follow your progress and gauge your readiness.

## SAMPLE GRADING REPORT

Key: Braille page number/line number: error type [points] citation

1/7: Misformed mathematical symbol [-2] Review P3.2

3/23: UEB contraction error [-2]

4/19: Unnecessary letter indicator [-2] Review 3.12.2

6 points deducted

Score: 94

You have passed this lesson.

%%%%%%%%%

Here is a sample list of error types. Note that most are 2-point errors.

### NEMETH AND UEB CONSTRUCTION

Incorrect mathematical symbol [-2]

Nemeth indicator errors:

Incorrect \_\_ indicator [-2]

Misformed \_\_ indicator [-2]

Omitted \_\_ indicator [-2]

Unnecessary \_\_ indicator [-2]

Punctuation mode [-2]

Significant typeform disregarded [-2]

Spacing error [-2]

Transcriber's note missing [-2]

### PROOFREADING

Added, omitted, or repeated  
mathematical material [-3]

Added, omitted, or repeated text [-2]

Capitalization error in literary context [-1]

Capitalization error in mathematical  
context [-2]

Misformed character/letter/number [-2]

Misread symbol or term [-2]

Misspelling [-2]

Omitted page [-3]

Stray dot or character [-2]

UEB contraction error [-2]

### CODE SWITCHING

Code switch indicator placement [-1]

Excessive code switching [-1]

Missing code switch indicator [-2]

Wrong code [-2]

### FORMAT

Alignment in a spatial arrangement [-2]

*Braille Formats* error regarding \_\_\_\_ [-1]

*Braille Formats* pagination issue [-1]

Incorrect division of linked expression  
[-2]

Incorrect division of a mathematical  
expression [-2]

"Keep Together" lineage error [-2]

Lineage (more room on the line) [-1]

Margins [-1]

Nemeth format error regarding \_\_\_\_ [-2]

Nemeth pagination issue [-2]

Unnecessary blank line [-1]

Unnecessary division of a mathematical  
expression [-1]







