

PRCVI

Provincial Resource Centre for the Visually Impaired



Resources | Leadership | Consultation



Unified English Braille (UEB) from 4-7

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Introduction

- In this presentation, we will cover the changes to braille relevant for grades 4 to 7
- Covers Literary, Math and Science content
- This is a hands-on workshop, please braille the examples
- To show the changes, we have some examples in English Braille, American Edition (EBAE) and UEB

Module 1

Typeforms

You learned about using bold, italic and underlined in UEB K-3 presentation. Here is one more typeform for script text (e.g., *handwriting*).

Symbol ⠠⠠⠠

Word ⠠⠠⠠

Passage ⠠⠠⠠

Terminator ⠠⠠⠠

Typeforms

She opened the note and read: *I love you*. It was signed *P.*

EBAE

Braille representation of the text using EBAE (English Braille Alphabet) style.

UEB

Braille representation of the text using UEB (Unified English Braille) style.

Braille these Sentences

My favourite pet is a: *cat*.



He filled in his name: *Joe Smith*.



Transcriber-defined Typeform Indicators

The transcriber-defined typeform indicators are listed on the special symbols page or in a transcriber's note giving the print format(s) it represents.

Use for significant print typeform changes such as different-sized type, **coloured** type, ~~crossed~~ ~~out~~ type, etc.

Transcriber-Defined Typeform Indicators

First transcriber-defined typeform indicator:

Symbol 

Word 

Passage 

Terminator 

Second transcriber-defined typeform indicator:

Symbol 

Word 

Passage 

Terminator 

See the Rules
of UEB section
9.5 for more
symbols.

Dot Locator for “Mention”

Dot locator for mention:  (followed by a braille symbol)

Use a dot locator for “mention” to set apart a braille symbol which is under discussion, as in a symbols list or a transcriber’s note.

When the dot locator for mention is used, the symbol has **no effect** on the surrounding text.

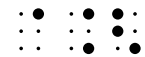
Place the dot locator for mention before the braille symbol and unspaced from it.

Example:

Square  

Transcriber's Note Indicators

Opening transcriber's note indicator

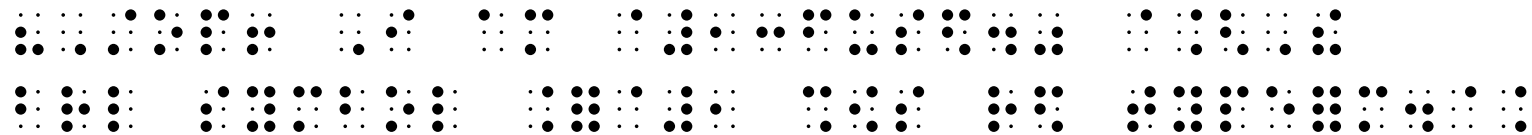


Closing transcriber's note indicator



Use the opening and closing transcriber's note indicators to enclose a transcriber's note.

“Stop! I am **confused.**”



Accent Signs

In UEB, if a word has an accented letter, the accent can be represented by the following symbols (which apply to the next letter):

◌́	acute (over)	⠠⠠⠠
◌¸	cedilla	⠠⠠⠠
◌◌	circle	⠠⠠⠠
◌ˆ	circumflex	⠠⠠⠠
◌¨	diaeresis/umlaut	⠠⠠⠠
◌̀	grave	⠠⠠⠠
◌~	tilde	⠠⠠⠠

These common accents are made up of a prefix followed by a root. The accent sign immediately precedes the letter.

Some Examples:


Marie had a tête-à-tête.



Comme ci comme ça...



Ångström



Practice

His name is Señor Gomez.



I am très fatigué.



I'll meet you at the café.



Foreign Language in English Text

Use contracted braille for foreign anglicized words when they occur in English text unless there is an accent within the contraction.

Use uncontracted braille where foreign words are shown in a distinctive typeform.

Handling Foreign Languages

In a book intended for language instruction such as French or Spanish, the accent signs for that language may be used instead of the UEB two-cell accent signs.

Note that UEB punctuation and other signs are still used, unless the entire text is in a foreign language.

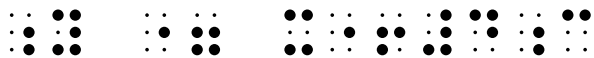
Étude = study



Module 2

Algebra

$$y = x + 4c$$



$$2x + 3 = 13$$



Be aware that algebra questions may look different depending on whether a grade 1 indicator (symbol, word, passage) is used!

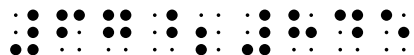
Remember that the numeric indicator also sets grade 1 mode.

Refer to the UEB Rulebook section 2.6 for more information about the “Standing Alone” rule.

Emphasis of Digits

If you use a typeform indicator with a digit, you need to repeat the numeric indicator before the next number (see Technical Guidelines section 2.7).


67845



67845



67845



Practice

Right now, it is 3:05 pm. You are late!

The Braille text corresponds to the sentence: Right now, it is 3:05 pm. You are late!

King Henry VIII passed away in 15**47**, not in 1500.

The Braille text corresponds to the sentence: King Henry VIII passed away in 1547, not in 1500.

Signs of Comparison

Less than or equal to \leq 

Greater than or equal to \geq 


Not equal to \neq 


Approximately equal \doteq 


We covered the basic signs of operation and comparison in UEB K-3, here are some more.


Note that the \neq and \doteq are composed of the = sign plus symbols for “cross through” and “dot over” the previous item—these are covered in more detail in the Technical Guidelines, Section 12.

Examples

$$\frac{1}{5} \geq 0.25x$$


$$3 \leq y$$


$$\frac{1}{7} \neq \frac{3}{14}$$


$$\frac{99}{100} \doteq 1$$


Practice

$$\frac{1}{4} + 5 \geq 3.5b$$

$$(4+8) + (-3-10) \leq y + 100$$



$$7 \times 5 \neq 36 \div 4$$



$$0.555555 \neq 1.0$$

Simple Arrows

Arrow indicator 

Right (simple)  

Left (simple)  

Up (simple)  

Down (simple)  

For more information about different kinds of arrows, please check the Guidelines for Technical Material section 13 and the UEB Rulebook section 11.6.

Practice

London → Paris

⠠⠇⠠⠝⠠⠔⠠⠗⠠⠗ ⠠⠗⠠⠗⠠⠎

Follow the arrow to East wing ←

⠠⠋⠠⠋⠠⠇⠠⠗⠠⠗ ⠠⠗⠠⠗⠠⠗ ⠠⠑⠠⠎⠠⠗⠠⠗ ⠠⠑⠠⠗⠠⠗ ⠠⠑⠠⠗⠠⠗ ⠠⠑⠠⠗⠠⠗

To get to the moon, you go up ↑

⠠⠞⠠ ⠠⠑⠠⠗ ⠠⠗⠠⠗ ⠠⠗⠠⠗ ⠠⠗⠠⠗ ⠠⠗⠠⠗ ⠠⠗⠠⠗ ⠠⠗⠠⠗ ⠠⠗⠠⠗ ⠠⠗⠠⠗

Treasure is this way ↓

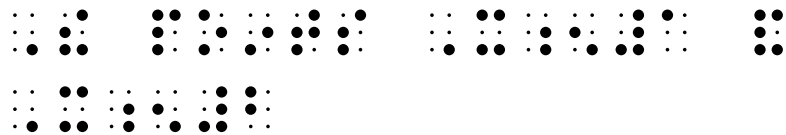
⠠⠞⠠⠞⠠⠗⠠⠑ ⠠⠎ ⠠⠗⠠⠗ ⠠⠗⠠⠗ ⠠⠗⠠⠗

Subscript Sign

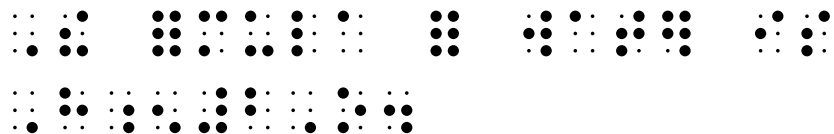
Subscript 

Superscript 

The points X_1 and X_2



The formula for water is H_2O .



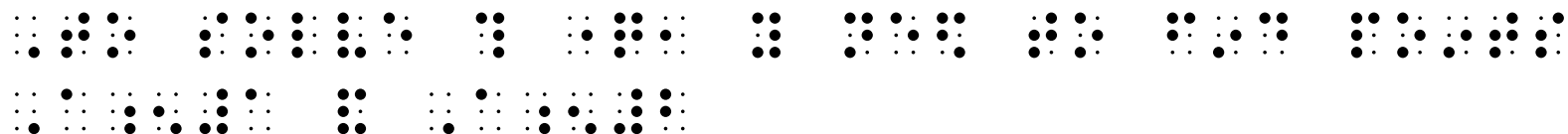
Remember: You may or may not need to use a grade 1 indicator!

Practice

CO₂ is Carbon dioxide.



To solve this question, you need to find points A₁ and A₂



Solve 2⁸



More Symbols

Crosshatch/hash/pound # ⠠⠠⠠

Asterisk (star) * ⠠⠠⠠

Pi π ⠠⠠⠠

Euro sign € ⠠⠠⠠

Square root $\sqrt{\quad}$

Pound sign £ ⠠⠠⠠

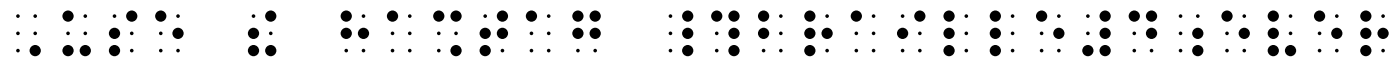
Open radical ⠠⠠⠠

Close radical ⠠⠠⠠

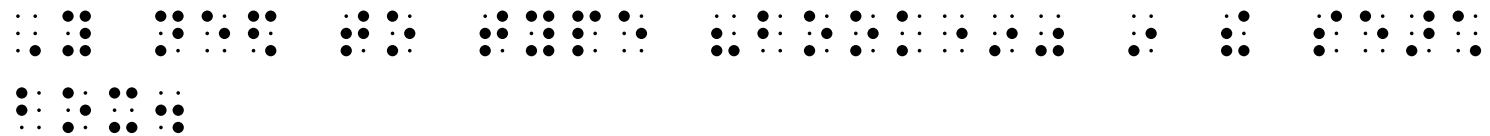
For more symbols, see the UEB Rulebook page 20.

Practice

Use the hashtag #braille4ever



You need to type "book*" in the search box.



The hat cost €15.00, which is £11.08.



$\pi = 3.14$







\sqrt{x} is 2



Module 3

Shapes

- Shape indicator 
- Filled shape indicator 
- Shaded shape indicator 
- Shape terminator 

For rules for shapes, refer to the Rulebook section 11.7 and the Technical Guidelines section 14.

Remember, the shape indicator followed by a space requires a grade 1 indicator.

Shapes

Equilateral triangle 



Square 



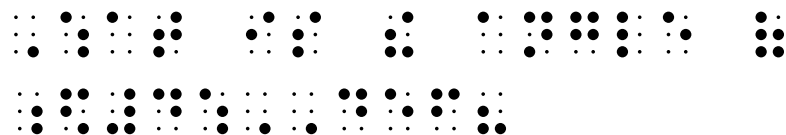
Circle 



Parallelogram 



What is the angle of $\triangle DEF$?



The shape terminator is needed to terminate an arrow when it is followed unspaced by letters or punctuation.

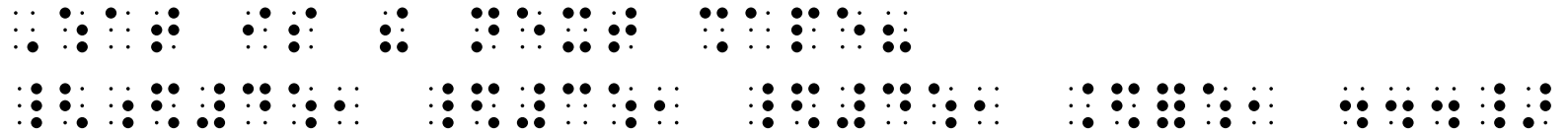
Braille the Examples

\triangle ABC



What is the next shape?

{, , , , ...}



A  has no sides.



Multiplication and Division

Begin horizontal line mode



Vertical line segment

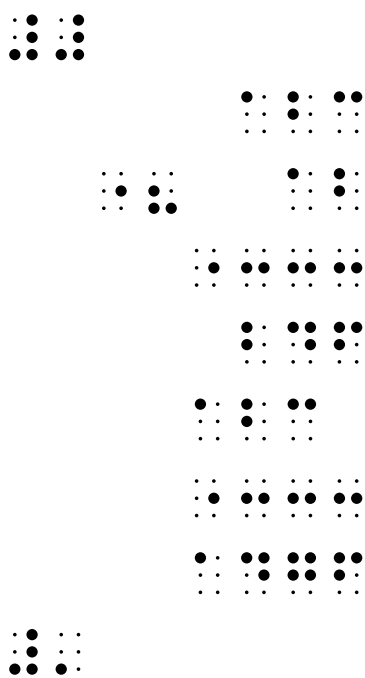


See Technical Guidelines, Section 4 for more information.



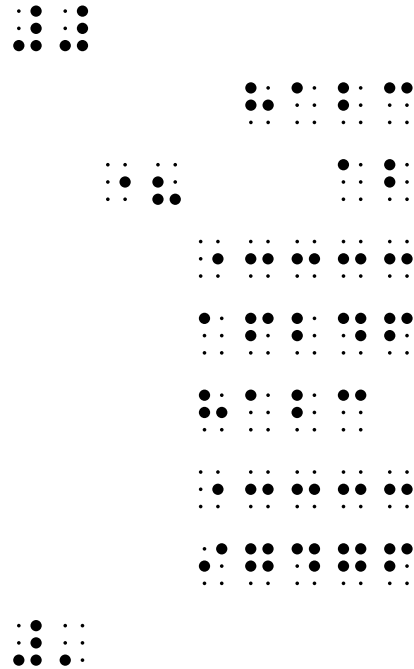
Long Multiplication

$$\begin{array}{r}
 123 \\
 \times 12 \\
 \hline
 246 \\
 123 \\
 \hline
 1476
 \end{array}$$



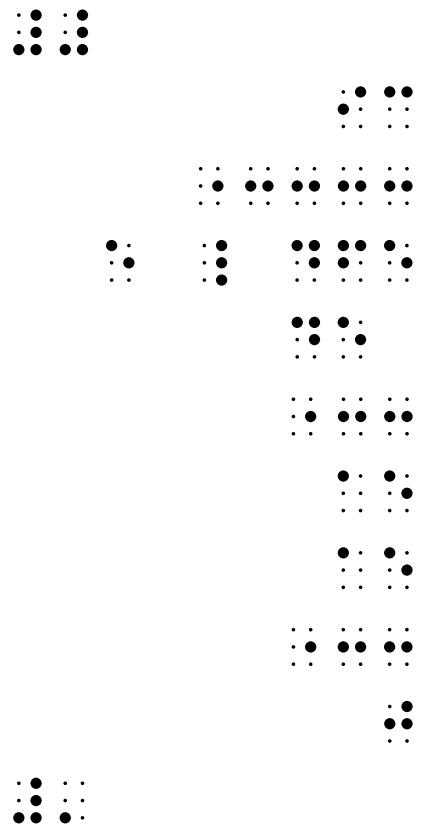
Braille this Problem

$$\begin{array}{r}
 8123 \\
 X \quad 12 \\
 \hline
 16246 \\
 8123 \\
 \hline
 97476
 \end{array}$$



Long Division

$$\begin{array}{r} 93 \\ 5 \overline{) 465} \\ \underline{45} \\ 15 \\ \underline{15} \\ 0 \end{array}$$



The Braille representation of the long division problem is as follows:

93

5) 465

45

15

15

0

The Braille representation uses a grid of dots to represent the numbers and the structure of the long division. The quotient 93 is shown above the dividend 465. The divisor 5 is to the left of the dividend. The partial products 45, 15, and 15 are shown below the dividend, and the remainder 0 is shown at the bottom.

Braille this problem

$$\begin{array}{r} 120 \\ 3 \overline{) 360} \\ \underline{3} \\ 60 \\ \underline{60} \\ 0 \end{array}$$

Braille representation of the division problem:

120

3) 360

3

60

60

0

Braille symbols for the numbers and operations are shown in the image.

Tally Marks

Tally mark ⠠⠨

4 tally marks with
strike through ⠠⠨⠨⠨⠨

Here is the example:
Thirteen

~~||||~~ ~~||||~~ |||
⠠⠨⠨⠨⠨ ⠠⠨⠨⠨⠨ ⠠⠨⠨⠨

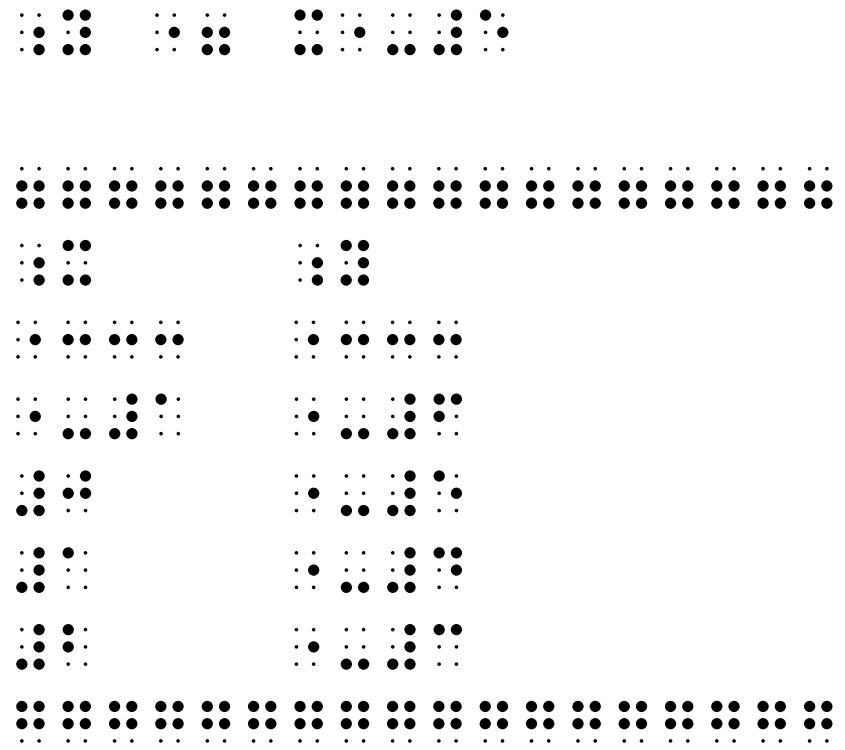
It is the same as vertical line segment.

See Technical Guidelines Section 4.2 for more information.

Tables

$$y = x - 5$$

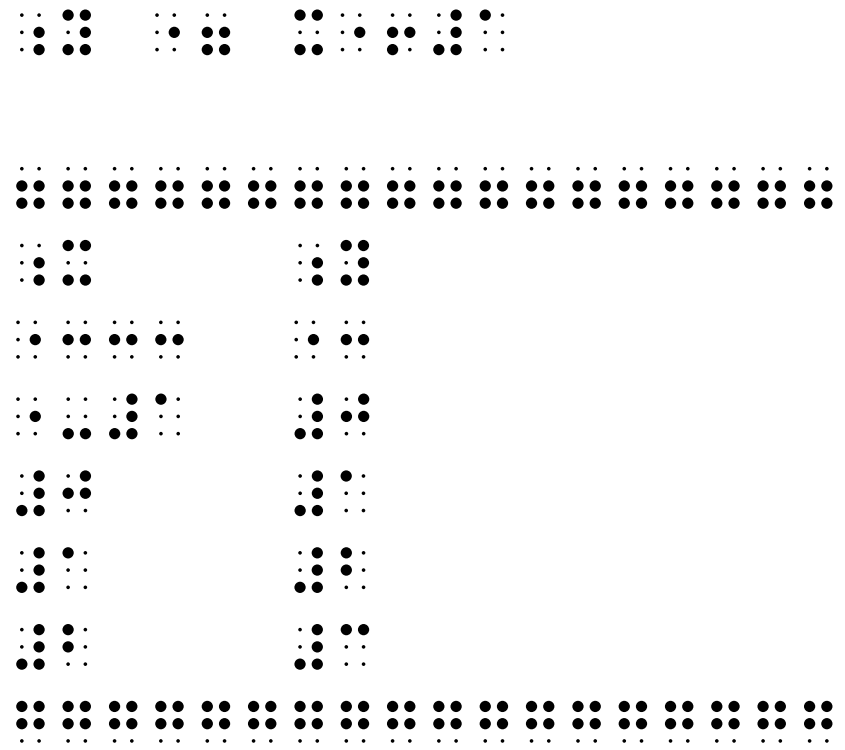
x	y
-1	-6
0	-5
1	-4
2	-3



Now Your Turn

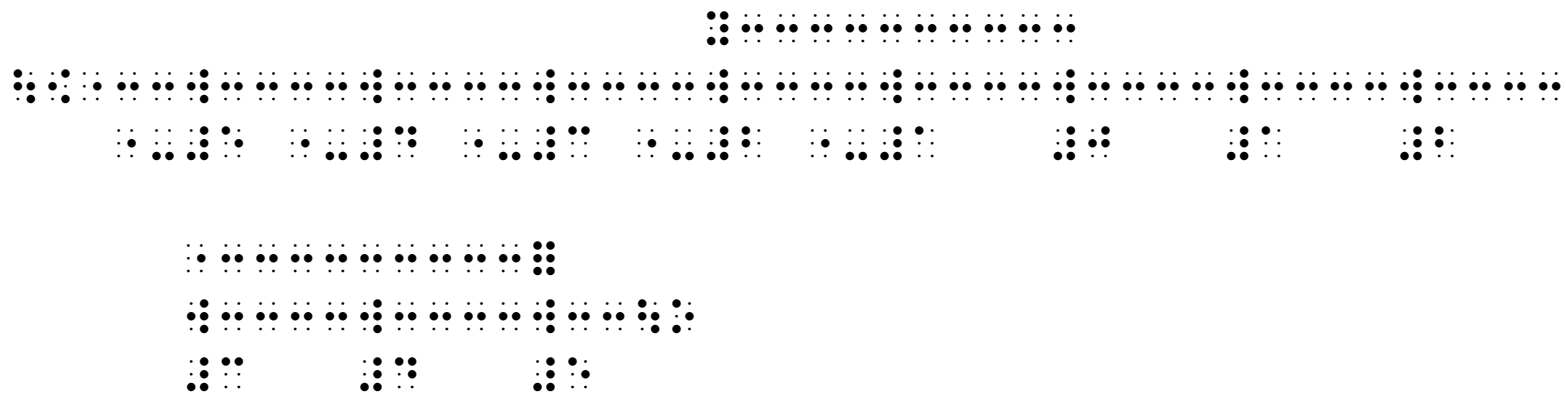
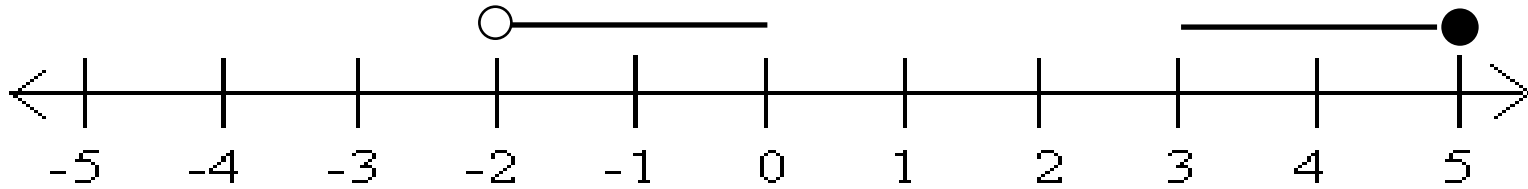
$$y = x + 1$$

x	y
-1	0
0	1
1	2
2	3



Number Lines

Number line example



CONGRATULATIONS!

You have come to the end of this presentation on UEB from 4 to 7

We hope you have enjoyed it and found it helpful.

Let us know if you have any questions.

For further reference refer to the Rules of UEB and Technical Guidelines <http://www.iceb.org/ueb.html>