



Teaching and Learning of the Nemeth Braille Code

- Numeric Indicator
- Signs and Symbols of Operation
- Equals Sign
- Spatial Arrangement for Computation
 - Addition and Subtraction
 - Multiplication



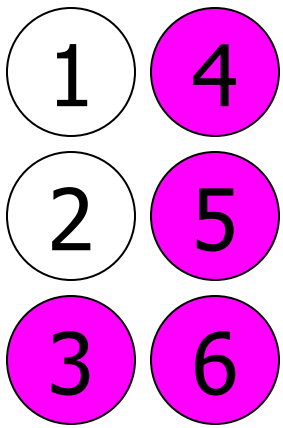
Nemeth Code



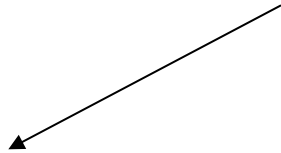
-
- Start teaching it early!
 - Take the opportunities as they come up!
 - Use literary code along with Nemeth so they learn to distinguish between the two.
 - Use both vertical and horizontal format



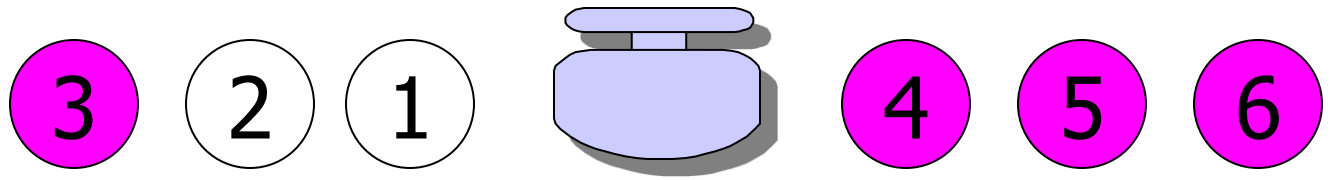
The Layout of a Cell



On paper



On the Perkins Braille



Basic Numbers (p.1-2)

Numeric Indicator ⠠

■ 0 ⠠

■ 5 ⠠

■ 1 ⠠

■ 6 ⠠

■ 2 ⠠

■ 7 ⠠

■ 3 ⠠

■ 8 ⠠

■ 4 ⠠

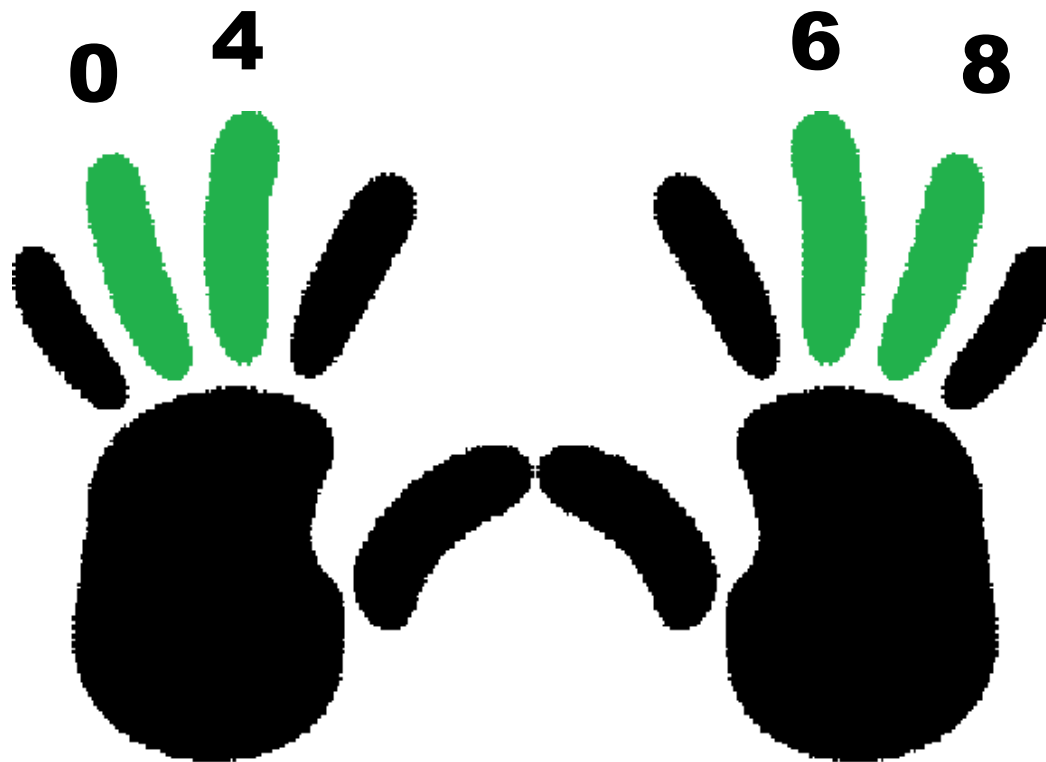
■ 9 ⠠

Use the numeric indicator at the beginning of a numeral, repeating after a space.

The numeric indicator is the same as the number sign in literary code (called English Braille in the book).



Memory Method



Use the corresponding finger with the 2 fingers of the opposite hand.



Practice

Page 2

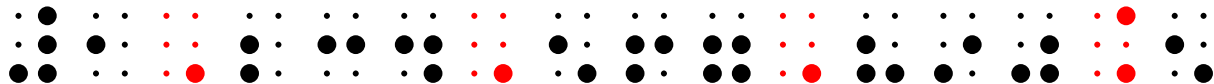
Practice

Exercise

Numbers Containing Commas & Decimals (p.2-3)

- With more than one digit, only use the numeric indicator at the very beginning
- Comma (,) ∷ (Literary ∷)
- Decimal (.) ∷ (Literary period ∷)

1,234,567,890.5





Practice

Page 3

Practice

Exercise



Basic Operations (p.4)

- Addition (+) ∴ (ing)
- Subtraction (-) ∴ (hyphen)
- Multiplication (x) ∴ ∴ (accent, ch)
- Multiplication (●) ∴ (ch)
- Division (÷) ∴ ∴ (decimal, st)

No space before or after and no numeric indicator on the second numeral.



Negative Numbers (p.4)

Use the minus symbol followed by the numeric indicator and the digits of the numeral.

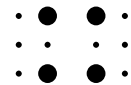
-8



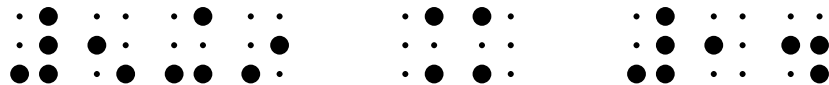
Equals Sign (p.4)

(Use a space before & after)

Equal to (=)



$$5+9=14$$





Practice

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Practice
Exercise



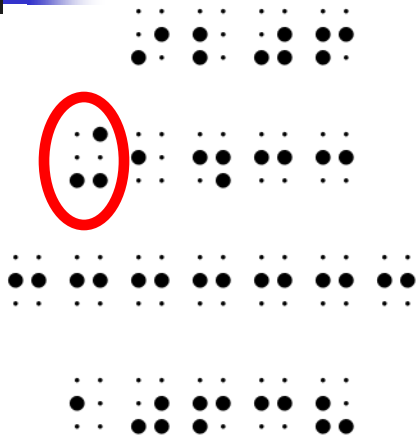
General Rules for Spatial Arrangements (p.5)

- Do not use the numeric indicator.
- No skipped lines within a problem.
- Use a series of dots 2-5 for the separation line between the problem and the answer.
(one extra cell in both directions beyond the overall width of the arrangement) .

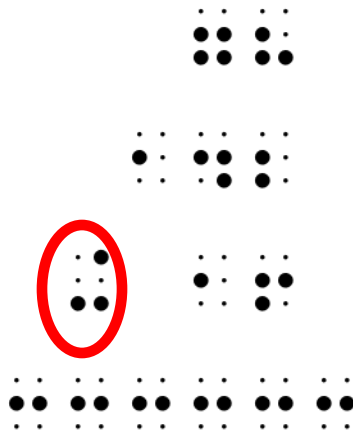
General Rules for Spatial Arrangements (p.5)

- Operation symbols are written just above the separation line, but just to the left of the widest number above the separation line.
- At least one blank cell between the ends of the separation lines of 2 problems.
- One blank line above and below each spatial problem.

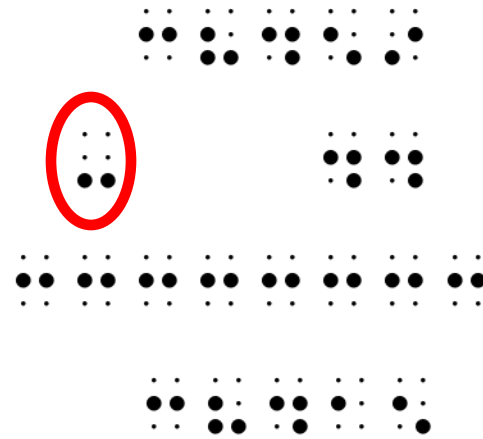
Examples (p.5)



$$\begin{array}{r} 9205 \\ +1433 \\ \hline 10638 \end{array}$$



$$\begin{array}{r} 78 \\ 142 \\ + 16 \\ \hline 236 \end{array}$$



$$\begin{array}{r} 38459 \\ - 44 \\ \hline 38415 \end{array}$$

Carried Numbers in Addition

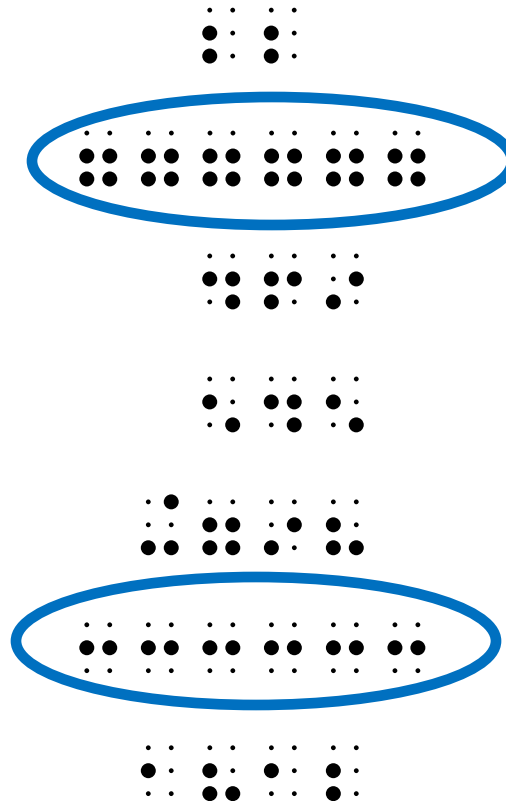
(p.6)



- Directly above the top number in the problem, insert a line of dots 2-3-5-6 so that it is the same length as the separation line. (carried number indicator)
- Show work originally, but student should work toward doing this mentally to save on time.
- Problem should be on a single page with room to work.

Example (not in book)

$$\begin{array}{r} 22 \\ 469 \\ 545 \\ +798 \\ \hline 1812 \end{array}$$





Practice

Page 6

Practice

Exercise



Multiplication (p.7)

- Use a series of dots 2-5 for the separation line between the problem and the answer. (one extra cell in both directions beyond the overall width of the arrangement) .
- Operation symbols are written just above the separation line, but just to the left of the multiplier.
- Show work originally as in addition, but student should work toward doing this mentally to save on time.



Example (p.7)

123
X 54
492
6150
6642

⠠⠠⠠
⠠⠠⠠⠠
⠠⠠⠠⠠⠠⠠
⠠⠠⠠⠠
⠠⠠⠠⠠⠠⠠
⠠⠠⠠⠠⠠



Practice

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Exercise

Multiplication with Decimals

(p.8)

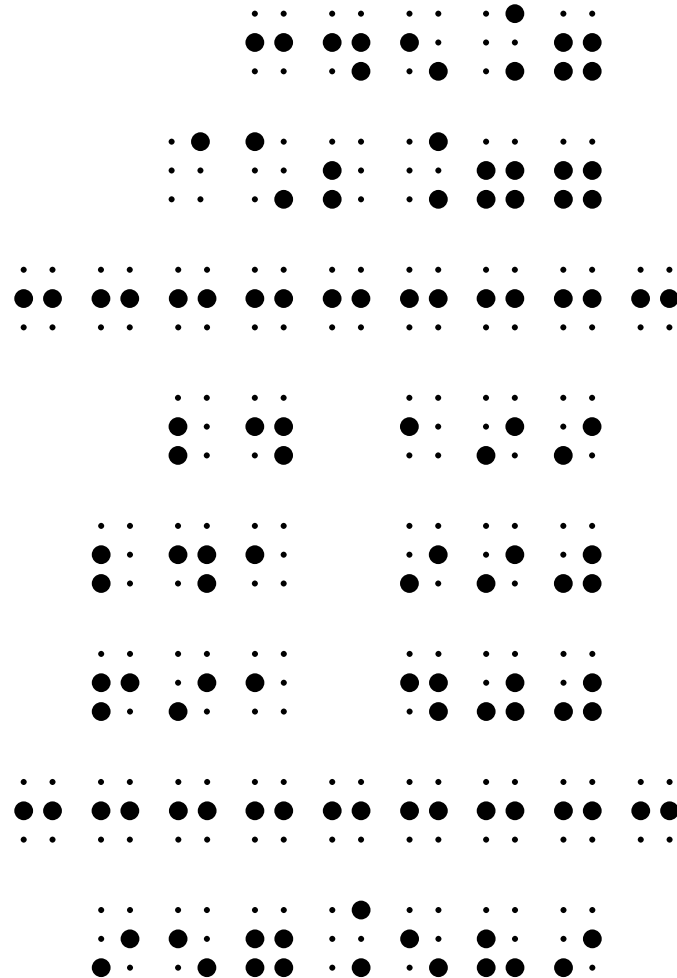


- A blank cell should be left in each partial product directly above the decimal point in the final product.
- To calculate the number of decimal places in the product, add the number of decimal places in each of the two numbers being multiplied.



Example (p.8)

$$\begin{array}{r} 345.7 \\ \times 2.77 \\ \hline 24199 \\ 241990 \\ \hline 691400 \\ \hline 957.589 \end{array}$$





Assignment

The following Practice Exercises should be translated and handed in with reflection

- p. 2 all
- p. 3 all
- p. 4 one of each operation (we will talk about the last one in this exercise)
- p. 6 pick 1
- p. 7 pick 1