



# Teaching and Learning of the Nemeth Braille Code

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- Set Notation
  - Grouping Symbols
  - Signs of Comparison
  - Signs of Operation
  - Empty Set
- Shapes and Geometry



# Shapes and Geometry

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- Basic Shapes
- Spacing with Symbols of Shape
- Shape Symbols That Represent Omission
- Use of Multipurpose Indicator with Regular Polygons
- Plural of a Sign of Shape
- The ELI and Shapes



# Grouping Symbols Review

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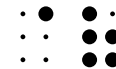
■ Parentheses

( )



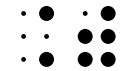
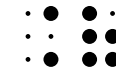
■ Brackets

[ ]



■ Braces

{ }





# Signs of Comparison Review

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- Equal to = ⠠⠠⠠⠠
- Not equal to  $\neq$  ⠠⠠⠠⠠⠠
- Less than  $<$  ⠠⠠⠠
- Less than or equal to  $\leq$  ⠠⠠⠠⠠⠠
- Greater than  $>$  ⠠⠠⠠
- Greater than or equal to  $\geq$  ⠠⠠⠠⠠⠠



# Signs of Operation for Set Notation & Empty Set


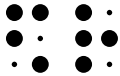
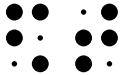

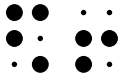
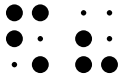

- Intersection (overlap) sh - share  $\cap$  ∴∴
  - Result includes elements which appear in both sets or are shared (no space before or after)
- Union (combination) + - adding  $\cup$  ∴∴
  - Result combines or adds the sets together without repetition (no space before or after)
- Empty Set
  - $\{ \}$  ∴∴ ∴∴ (use single space between)
  - $\emptyset$  ∴∴



# Basic Shapes

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## ■ Shape Indicator

- |             |     |   |
|-------------|-----|---|
| ■ Rectangle | (r) |    |
| ■ Circle    | (c) |    |
| ■ Triangle  | (t) |    |
| ■ Square    | (4) |   |
| ■ Hexagon   | (6) |  |
| ■ Octagon   | (8) |  |
| ■ Angle     |     |  |



# Spacing with Symbols of Shape

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- There must be a space between the shape symbol and its identification
- The combination of a sign of shape and its identification is considered one item in an “enclosed list”



# Shapes that are signs of comparison

- Must have a space before and after
  - Parallel to - || (l) ⠠⠠
  - Not parallel to ⠠⠠⠠
  - Perpendicular to - ⊥ (p) ⠠⠠
  - Not perpendicular to ⠠⠠⠠

# Arrows as Signs of Comparison

## Space Before and After

- Right-pointing arrow contracted form

⋮ ⋮

- Right-pointing arrow uncontracted form

⋮ ⋮ ⋮ ⋮

- Left-pointing arrow never contracted

⋮ ⋮ ⋮ ⋮

- Two-way horizontal arrow

⋮ ⋮ ⋮ ⋮ ⋮



# Shape Symbols That Represent Omission

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- Must be transcribed exactly using the shape symbol indicator
- Must be spaced in accordance with the omitted item which it represents
- The PI must be included before punctuation that follows a shape symbol



# Use of the Multipurpose Indicator w/ Regular Polygons

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- When a shape symbol that represents a regular polygon is followed by a numeral, the Multipurpose Indicator, dot 5, must precede the numeral

Why?



# Plural of a Sign of Shape

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- The "s" is written immediately after the shape symbol
- The `s is written with the PI followed by the "`s" immediately after the shape symbol



# The ELI and Shapes

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- The ELI is not used with a “single letter” or “short-form combination” that
  - Follows a symbol of shape which is not a plural or possessive
  - Precedes or follows a symbol of shape representing omission



# Assignment

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- p. 66 all

- p. 70 all