Teaching and Learning of the Nemeth Braille Code

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

- 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

- Parentheses  (  )
- Brackets    [  ]
- Braces      {  }
Signs of Comparison Review

- Equal to
- Not equal to
- Less than
- Less than or equal to
- Greater than
- Greater than or equal to
Signs of Comparison for Set Notation

Space Before and After

- Inclusion, is contained in, is a proper subset of $\subseteq$
- Bar under Inclusion, is a subset of $\subseteq$
- Reverse Inclusion, contains $\supset$
- Membership, belongs to, is an element of $\in$
- Vertical Bar, such that $|$
Signs of Operation for Set Notation & Empty Set

- **Intersection (overlap)**: \( \cap \)
  - Result includes elements which appear in both sets or are shared (no space before or after)

- **Union (combination)**: \( \cup \)
  - Result combines or adds the sets together without repetition (no space before or after)

- **Empty Set**
  - \( \{ \} \)  
  - \( \emptyset \)  
  - (use single space between)
Basic Shapes

- Shape Indicator
  - Rectangle (r)
  - Circle (c)
  - Triangle (t)
  - Square (4)
  - Hexagon (6)
  - Octagon (8)
  - Angle
Spacing with Symbols of Shape

- 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 and "enclosed list".
Shapes that are signs of comparison

- Must have a space before and after
  - Parallel to - \( \parallel \) (\( l \))
  - Not parallel to
  - Perpendicular to - \( \perp \) (\( p \))
  - 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

- 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

- 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

- 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

- 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

- p. 66 all
- p. 70 all