

Graphing Inequalities on a Braille Number Line

Nemeth symbols and concepts addressed:

- Left-pointing arrowhead
- Axis line
- Coordinate scale mark
- Right-pointing arrowhead
- Solid, filled-in, or closed circle
- Open circle
- Bold shaded line segment
- Bold left-pointing arrowhead
- Bold right-pointing arrowhead

Objectives:

The student will be able to:

- 1) Read and write the symbols used to graph inequalities
- 2) Label the scale marks on a number line
- 3) Graph inequalities on a number line
- 4) Interpret inequalities on a number line

Teaching tips:

- Before opening any BRF files in Duxbury, go into the Global menu. Select "Formatted Braille Importer" and then check the box for "Read formatted braille without interpretation" at the top of the window. This will ensure that nothing is changed when opening the BRF files.
- In addition to graphing inequalities on number lines within the focused lesson, there are activities and games.
- When graphing inequalities on number lines, a student should always use a braillewriter since number lines take up more than one line.
- The axis line between the scale marks can vary in length, but once the length between the first two scale marks is decided on, the same length of axis line should be used between the other scale marks on the same number line.
- Open or closed circles should always be graphed above the number line.
- Shading should always be done on the axis lines.
- Scale marks are also sometimes informally called hash marks or tick marks.

- Number lines produced by the student may vary from the answer key, but still be correct since the length of the axis line, number of scale marks, and the labels on the scale marks can vary.
- When students learn to interpret inequalities on a number line, it is important that they also practice writing the inequalities in Nemeth Code.
- For some students it may be helpful to compare number lines on the APH Number Line Device with number lines created in braille.
- *Note: Examples that frequently switch between print and SimBraille do not include Nemeth Code switch indicators. However, the Nemeth Code switch indicators have been used in braille documents and when long sections of Nemeth Code have been included in the print documents.*

Materials Commercially Available:

Materials that could be used from the American Printing House for the Blind (www.aph.org) include

- * Number Line Device (1-03480-01)
- Math Drill Cards in Braille and Large Print: Number and Math Sign Cards (1-03551-00)

** WARNING: CHOKING HAZARD -- Small Parts. Not intended for children ages 5 and under without adult supervision.*

Other Optional Materials:

- Dice
- Dominoes
- Playing cards