

Number Lines Lesson 2

Graphing Points

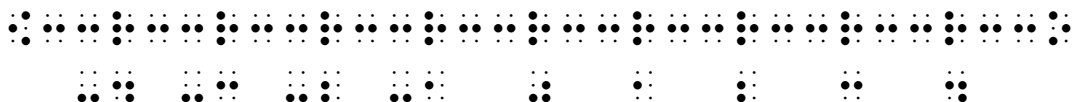
Important Note

For all braille examples, emboss the "L2-NL-Problems-Only.brf" file as a supplement to this lesson.

Background

After completing the "Lesson 1 Creating a Number Line" focused lesson, you are ready to start graphing points on a number line. As a quick review, the following symbols are used to create number lines:

- left-pointing arrowhead (dots 2-4-6) ⠠
- line (axis line) (dots 2-5) ⠨
- scale mark (dots 1-2-3-5) ⠠
- right-pointing arrowhead (dots 1-3-5) ⠡



A braille number line is shown with arrows on both ends. The scale marks are in increments of 1 starting with -4 and ending with 4.

Basic Rules

To graph a point on the number line, you need to learn a new symbol:

solid, filled-in, or closed circle (point included) (dots 1-2-3-4-5-6) ⠠

This symbol is placed directly above a specific location on the number line when you wish to plot a point.

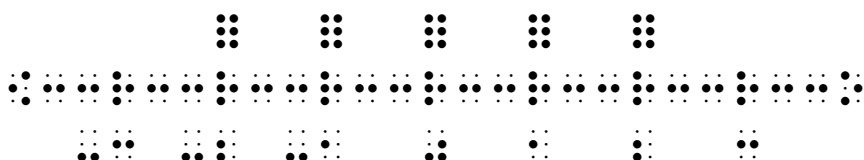
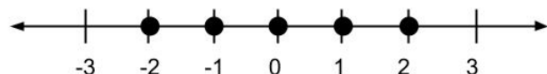
When graphing points on a number line use the following steps:

1. Number your problem.
2. Space down three lines.
3. Create your number line.

- Place the proper coordinate under each scale mark.
- Above the number line, indicate where you wish to plot points by inserting a closed circle directly above each appropriate coordinate. This could be directly above a scale mark or somewhere in between.

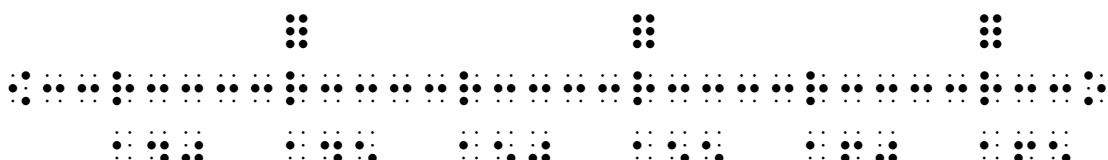
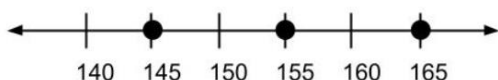
Examples

1. Graph the following integers on a number line: -2, -1, 0, 1, 2.



A braille number line is shown. The scale marks are in increments of 1 starting with -3 and ending with 3. A closed circle is placed above the scale marks at -2, -1, 0, 1, and 2.

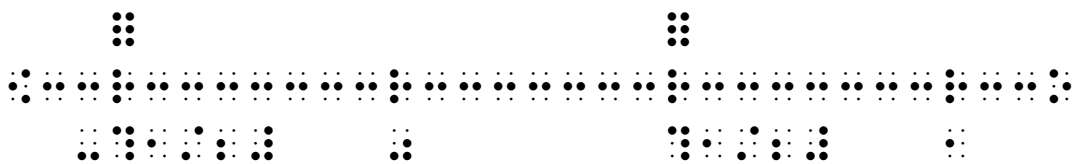
2. Graph the following points on a number line: 145, 155, and 165.



A braille number line is shown. The scale marks are in increments of 5 starting with 140 and ending with 165. A closed circle is placed above the scale marks at 145, 155, and 165.

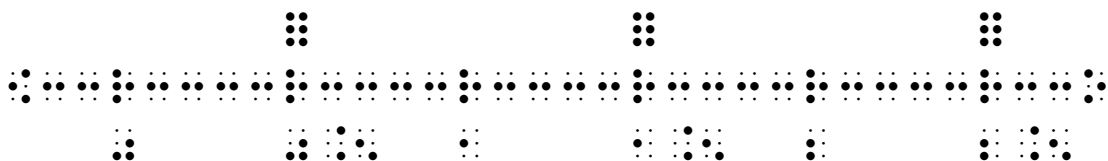
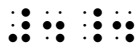
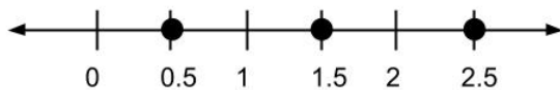
3. Graph negative one-half and one-half on a number line.

$$-\frac{1}{2} \text{ and } \frac{1}{2}$$



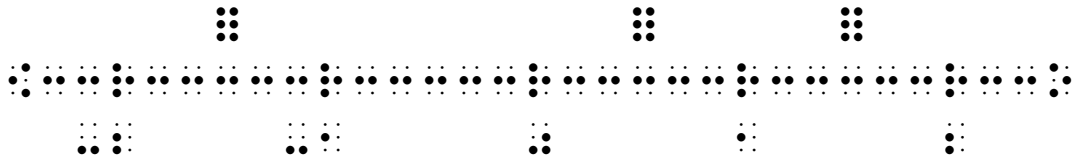
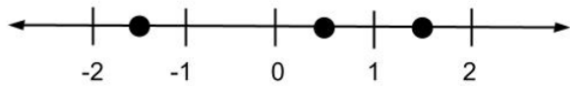
A braille number line is shown. The scale marks are in increments of one-half starting with negative one-half and ending with 1. A closed circle is placed above the scale marks at negative one-half and one-half.

4. Graph the following points on a number line: 0.5, 1.5, and 2.5.



A braille number line is shown. The scale marks are in increments of 0.5 starting with 0 and ending with 2.5. A closed circle is placed above the scale marks at 0.5, 1.5, and 2.5.

5. Graph the following points on a number line: -1.5, .5, and 1.5.



A braille number line is shown. The scale marks are in increments of 1 starting with -2 and ending with 2. A closed circle is placed above the number line halfway between the scale marks for -2 and -1, halfway between the scale marks for 0 and 1, and halfway between the scale marks for 1 and 2.

Activity Time

Okay, let's see if you can re-create all of the number lines with points in this lesson. You can also make up some of your own number lines with points for even more practice. Then head to the games to have even more fun with making number lines that include points.