

Number Lines Lesson 4

Compound Inequalities

Graphing Activity

Graph each compound inequality on a new number line. Number your answers and include the original problem. [There is a braille answer document "L4-NL-Activity-A-Answers.brf" that can be used to independently check answers.]

1. Negative 3 is less than x is less than 2.

$$-3 < x < 2$$

2. Negative 3 is less than or equal to x is less than or equal to 2.

$$-3 \leq x \leq 2$$

3. Negative 2 is less than x is less than or equal to 3.

$$-2 < x \leq 3$$

4. Negative 2 is less than or equal to x is less than 3.

$$-2 \leq x < 3$$

Figure 1 consists of six 3x3 grids, labeled (a) through (f), each containing a different number of black dots. The grids are arranged in a single row. (a) has 5 dots, (b) has 6 dots, (c) has 7 dots, (d) has 8 dots, (e) has 9 dots, and (f) has 10 dots. The dots are placed in various configurations within the 3x3 grids, with some grids having a central dot and others having dots in the corners or edges.

5. x is less than negative 2 or x is greater than or equal to 1.

$$x < -2 \text{ or } x \geq 1$$

6. x is less than or equal to negative 1 or x is greater than 2.

$$x \leq -1 \text{ or } x > 2$$

The figure consists of 11 diagrams, each showing a pattern of black dots on a grid. The patterns are as follows:

- Diagram 1: A 3x3 grid with dots at (1,1), (1,2), (1,3), (2,1), (2,2), (2,3), (3,1), (3,2), and (3,3).
- Diagram 2: A 3x3 grid with dots at (1,1), (1,2), (1,3), (2,1), (2,2), (2,3), (3,1), (3,2), and (3,3).
- Diagram 3: A 3x3 grid with dots at (1,1), (1,2), (1,3), (2,1), (2,2), (2,3), (3,1), (3,2), and (3,3).
- Diagram 4: A 3x3 grid with dots at (1,1), (1,2), (1,3), (2,1), (2,2), (2,3), (3,1), (3,2), and (3,3).
- Diagram 5: A 3x3 grid with dots at (1,1), (1,2), (1,3), (2,1), (2,2), (2,3), (3,1), (3,2), and (3,3).
- Diagram 6: A 3x3 grid with dots at (1,1), (1,2), (1,3), (2,1), (2,2), (2,3), (3,1), (3,2), and (3,3).
- Diagram 7: A 3x3 grid with dots at (1,1), (1,2), (1,3), (2,1), (2,2), (2,3), (3,1), (3,2), and (3,3).
- Diagram 8: A 3x3 grid with dots at (1,1), (1,2), (1,3), (2,1), (2,2), (2,3), (3,1), (3,2), and (3,3).
- Diagram 9: A 3x3 grid with dots at (1,1), (1,2), (1,3), (2,1), (2,2), (2,3), (3,1), (3,2), and (3,3).
- Diagram 10: A 3x3 grid with dots at (1,1), (1,2), (1,3), (2,1), (2,2), (2,3), (3,1), (3,2), and (3,3).
- Diagram 11: A 3x3 grid with dots at (1,1), (1,2), (1,3), (2,1), (2,2), (2,3), (3,1), (3,2), and (3,3).