

SPARK Hybrid Education Center

Mathematics | Upper Level | Week 3

Inequalities & Graphing on Number Lines

Name: _____ Date: _____ Period: _____

Practice Problems

1. Solve and graph: $x + 4 > 9$

2. Solve and graph: $2x \leq -10$

3. Solve and graph: $-3x < 12$ (remember to flip the sign!)

4. Solve: $4x - 5 \geq 7$

5. Solve: $-2x + 1 < -5$

6. Write an inequality: 'Three more than twice a number is at most 15.'

7. The temperature must be at least 68 degreesF. Let t = temperature. Write the inequality.

8. Solve: $x/3 + 2 > 5$

9. Is $x = -3$ a solution of $2x + 7 > 0$? Show your work.

10. CHALLENGE: Solve and graph: $-1 < 2x - 3 \leq 5$

ANSWER KEY (Teacher Copy - Cut before distributing)

1. $x > 5$ (open circle at 5, arrow right)
2. $x \leq -5$ (closed circle at -5, arrow left)
3. $x > -4$ (open circle at -4, arrow right; sign flips when dividing by -3)
4. $x \geq 3$
5. $x > 3$
6. $2n + 3 \leq 15$
7. $t \geq 68$
8. $x > 9$
9. $2(-3) + 7 = 1 > 0$. Yes, $x = -3$ is a solution.
10. $1 < x \leq 4$

