

# Graphing Inequalities - Practice Worksheet

Name: \_\_\_\_\_ Date: \_\_\_\_\_

**Instructions:** Graph each inequality on the number line or coordinate plane provided. For number-line problems, mark an open or closed circle and draw the correct arrow. For two-variable problems, draw the boundary line (solid or dashed) and shade the correct half-plane.

1. Graph  $x > 3$  on a number line.

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2. Graph  $x \leq -2$  on a number line.

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3. Graph  $-1 < x \leq 4$  on a number line.

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4. Graph  $x \geq 0$  on a number line.

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5. Solve and graph:  $x + 5 > 8$

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

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7. Solve and graph:  $-3x < 9$

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8. Graph  $y < 2x + 1$  on a coordinate plane.

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9. Graph  $y \geq -x + 3$  on a coordinate plane.

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10. Graph  $3x - 2y \leq 6$  on a coordinate plane.

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## Answer Key

1. Open circle at 3, arrow pointing right.
2. Closed circle at -2, arrow pointing left.
3. Open circle at -1, closed circle at 4, segment between them.
4. Closed circle at 0, arrow pointing right.
5.  $x > 3$ . Open circle at 3, arrow pointing right.
6.  $x \leq 5$ . Closed circle at 5, arrow pointing left.
7.  $x > -3$  (flip inequality when dividing by negative). Open circle at -3, arrow pointing right.
8. Dashed line  $y = 2x + 1$ ; shade the region below the line.
9. Solid line  $y = -x + 3$ ; shade the region above the line.
10. Rewrite as  $y \geq (3x - 6)/2 = 1.5x - 3$ . Solid line  $y = 1.5x - 3$ ; shade above the line.