



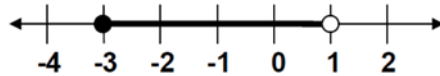
Objective: Graphing Linear Inequalities

Homework SY6 – NYA p.407 #1, 2, 5, 7, 8, 10, 11 – 13, 20, 50, 51

Do Now: Solve the linear inequalities.

<p>1. $\frac{1}{2}x - 4 \geq -4$</p>	<p>2. $-6a + 2 < 29$</p>
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Exam Prep: Which set is equal to:



- a) $-3 < y < 1$ c) $-3 \leq y < 1$
 b) $-3 \leq y \leq 1$ d) $-3 < y \leq 1$



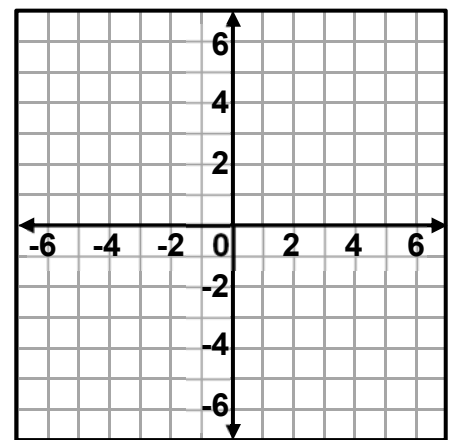
A very special message from The Doctor...

Use your knowledge of $y = mx + b$ and graphing inequalities on a number-line and you will be good?
 Remember when you fill in the circle? I shall kill you if you don't.

Investigation: Graphing Inequalities

- Graph $y = x + 4$ on a coordinate plane using your graphing calculator.
 - Recall the solutions to this linear equation are coordinates on the graph.
- Choose a point ABOVE the line, BELOW the line, and ON the line.
 - Which of the coordinates would be solutions to $y > x + 4$?
- How might you show the solutions to $y > x + 4$?

ABOVE (,)
ON (,)
BELOW (,)



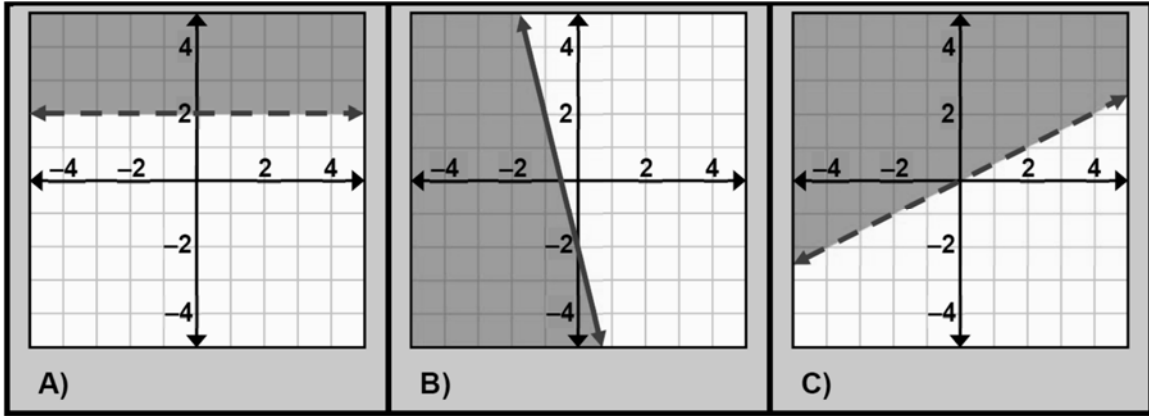
Graphing linear inequalities is similar to graphing on a number line.

Linear inequalities describe regions of a plane that have boundary lines. The solutions to the inequalities are all coordinates that make the inequality true.


<p>Number Line: $x < 1$</p>	<p>Coordinate Plane: $x < 1$</p>
<p>Note: This is Prior Knowledge!</p>	

<p>$y > x + 1$</p> <p>Each point on a <u>dashed</u> line is <u>NOT</u> a solution.</p>	<p>$y \leq -2x + 4$</p> <p>Each point on a <u>solid</u> line is a solution.</p>
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Practice: Write the inequality represented by the graph



Practice Graphing Linear Inequalities

$y \leq 4x + 1$	$y > 5x - 5$	$y < \frac{1}{2}x$
$6x + 3y \geq 12$		 Perhaps this one needs an adjustment?

Extra Word Problem: Real World Graph

	<p>Suppose your budget for a party allows you to spend no more than \$12 on the peanuts and cashews. Peanuts are \$2/lb. and cashews are \$4/lb. Write the inequality, graph it, and find three possible combinations of peanuts and cashews you can buy.</p> <p style="text-align: center;">Linear Inequality:</p> <p>Combo 1: (,)</p> <p>Combo 2: (,)</p> <p>Combo 3: (,)</p>
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