math Antics Worksheets

Name:

Date:

Solving Linear Inequalities - Set 1

IIA 1

Instructions: Solve each inequality for y. Remember to "Flip" the inequality sign whenever you switch the sides of the equation, or whenever you multiply or divide both sides by a negative number or term.

1 $5x > y + 7$

$-7 \quad -7$

$5x - 7 > y$

$y < 5x - 7$

2 $-6y < 3x$

$\frac{-6y}{-6} < \frac{3x}{-6}$

$y > -\frac{x}{2}$

3 $2x - y \leq 4x$

$-2x \quad -2x$

$(-1)\ -y \leq 2x\ (-1)$

$y \geq -2x$

4 $-3y + 3x > 0$

$-3x \quad -3x$

$\frac{-3y}{-3} > \frac{-3x}{-3}$

$y < x$

5 $0 > 5y - 10x$

$-5y \quad -5y$

$\frac{-5y}{-5} > \frac{-10x}{-5}$

$y < 2x$

6 $-4x < -y + 1 - x$

$+4x \qquad +4x$

$0 < -y + 1 + 3x$

$+y \quad +y$

$y < 3x + 1$

7 $-\frac{y}{4} + 2x \geq 5x$

$-2x \quad -2x$

$(-4)\ \frac{y}{-4} \geq 3x\ (-4)$

$y \leq -12x$

8 $8 - \frac{x}{2} \geq -y$

$(-1)\ -y \leq \left(-\frac{x}{2} + 8\right)(-1)$

$y \geq \frac{x}{2} - 8$

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Solving Linear Inequalities - Set 2

IIA 2

Instructions: Solve each inequality for y. Remember to "Flip" the inequality sign whenever you switch the sides of the equation, or whenever you multiply or divide both sides by a negative number or term.

1 $-\frac{y}{2} - 4 < 5x + 2$

$+4 \qquad +4$

$(-2)\frac{y}{-2} < (5x + 6)(-2)$

$y > -10x - 12$

2 $-x + 1 < 3x + y$

$-3x \qquad -3x$

$-4x + 1 < y$

$y > -4x + 1$

3 $(-2)\frac{y + 1}{-2} \geq 7x\,(-2)$

$y + 1 \leq -14x$

$-1 \qquad -1$

$y \leq -14x - 1$

4 $-2y + 5 > 6x - y$

$+y \qquad +y$

$-y + 5 > 6x$

$-5 \qquad -5$

$(-1)\,-y > (6x - 5)(-1)$

$y < -6x + 5$

5 $(-5)\,-x < \frac{y + 2x}{-5}\,(-5)$

$5x > y + 2x$

$-2x \qquad -2x$

$3x > y$

$y < 3x$

6 $10x \leq -20y$

$\frac{-20y}{-20} \geq \frac{10x}{-20}$

$y \leq -\frac{x}{2}$

7 $(2)(x - y) < \frac{y + x}{2}\,(2)$

$2x - 2y < y + x$

$-2x \quad -y \quad -y \quad -2x$

$\frac{-3y}{-3} < \frac{-x}{-3}$

$y > \frac{x}{3}$

8 $(-1)\,-(y + 2) < (1 - 9x)(-1)$

$y + 2 > -1 + 9x$

$-2 \qquad -2$

$y > -3 + 9x$

$y > 9x - 3$

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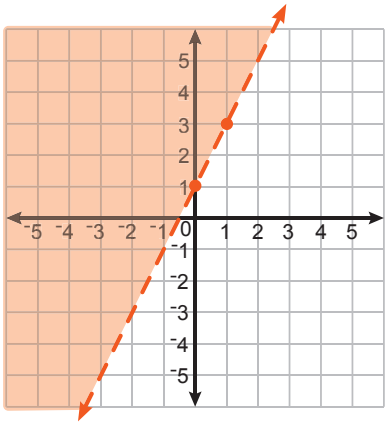
Graphing Linear Inequalities - Set 1

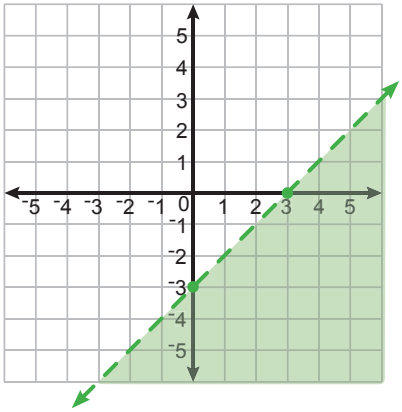
IIA 3

Instructions: Graph each linear inequality using the simple procedure you learned in the video.

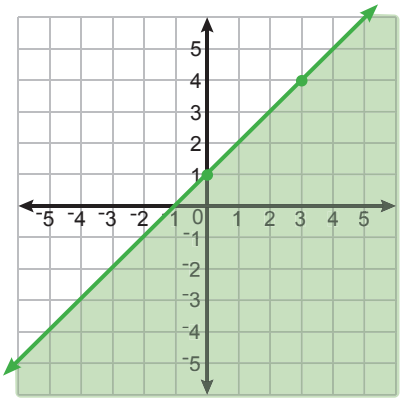
1 $y > 2x + 1$



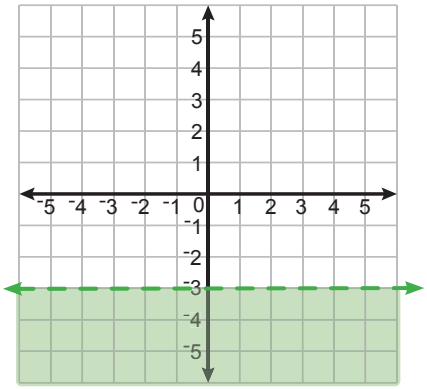
2 $y < x - 3$



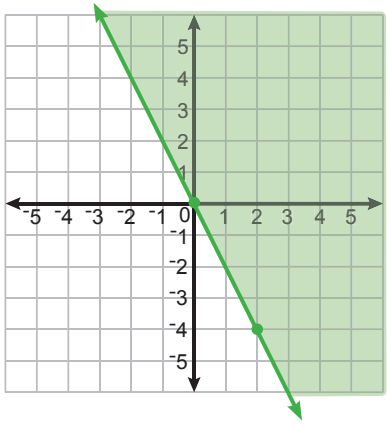
3 $y \leq x + 1$



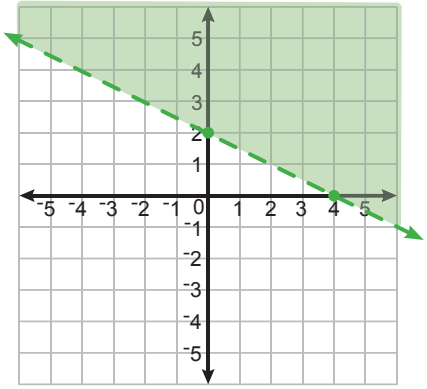
4 $y < -3$



5 $y \geq -2x$



6 $y > \frac{-x}{2} + 2$



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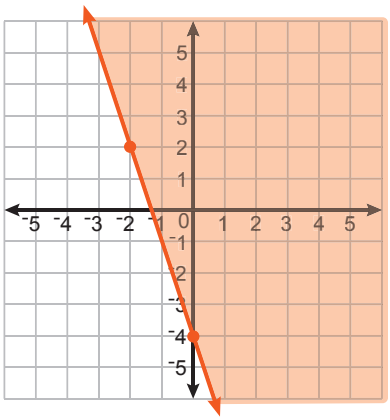
Graphing Linear Inequalities - Set 2

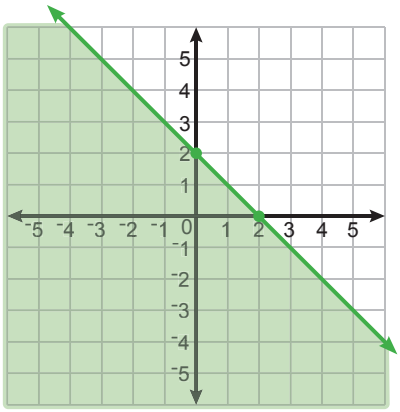
IIA 4

Instructions: Graph each linear inequality using the simple procedure you learned in the video.

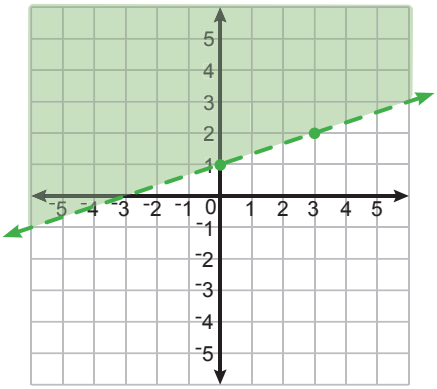
1 $y \geq -3x - 4$



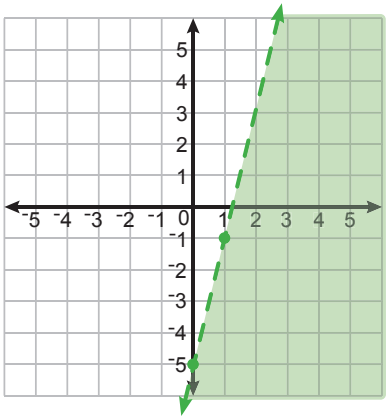
2 $y \leq -x + 2$



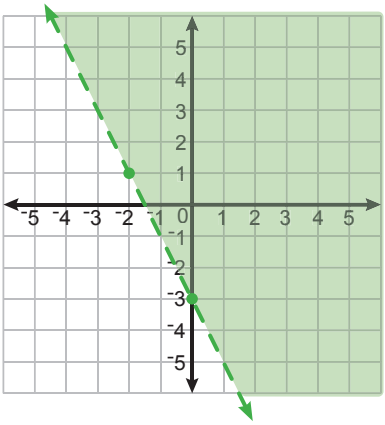
3 $y > \frac{x}{3} + 1$



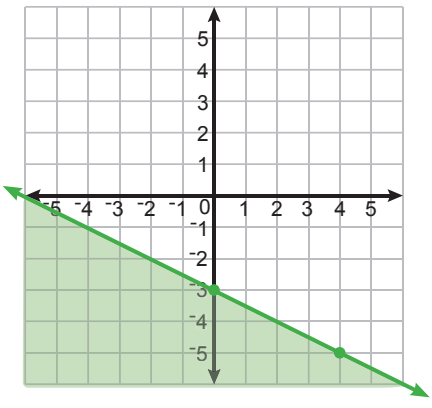
4 $y < 4x - 5$



5 $y > -2x - 3$



6 $y \leq \frac{-x}{2} - 3$



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Solving & Graphing Linear Inequalities

IIA 5

Instructions: Solve each inequality for y and then graph it on the coordinate plane.

1 $4 - y \geq 3x$

$-4 \quad -4$

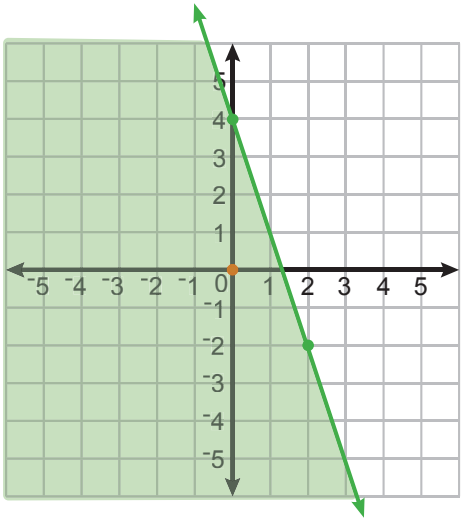
$(-1)\ -y \geq (3x - 4)(-1)$

$y \leq -3x + 4$

Test Point (0,0)

$0 \leq 4$ True

(shade same side)



2 $x > 4y + 8$

$4y + 8 < x$

$-8 \quad -8$

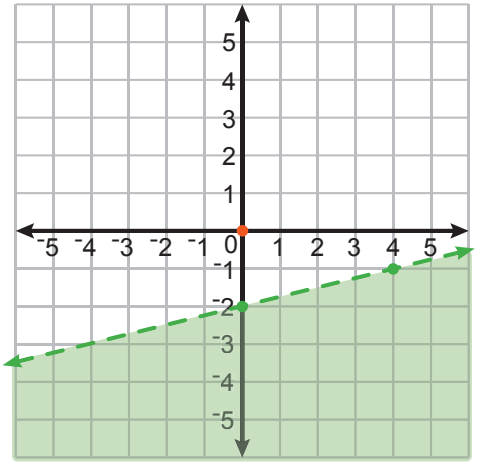
$\frac{4y}{4} < \frac{x - 8}{4}$

$y < \frac{x}{4} - 2$

Test Point (0,0)

$0 \leq -2$ False

(shade other side)



3 $x + 7 > 10 - y$

$-10 \quad -10$

$(-1)(x - 3) > -y\,(-1)$

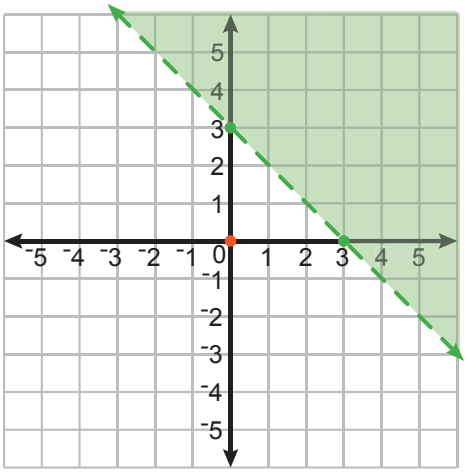
$-x + 3 < y$

$y > -x + 3$

Test Point (0,0)

$0 > 3$ False

(shade other side)



4 $3y - 2x \geq 2y + 5$

$-2y \quad -2y$

$y - 2x \geq 5$

$+2x \quad +2x$

$y \geq 2x + 5$

Test Point (0,0)

$0 \geq 5$ False

(shade other side)