Systems of Linear Inequalities

Name_____

Date_____ Period____

Definition of a System of Linear Inequalities - A system of linear inequalities in two variables consists of at least two linear inequalities in the same variables.

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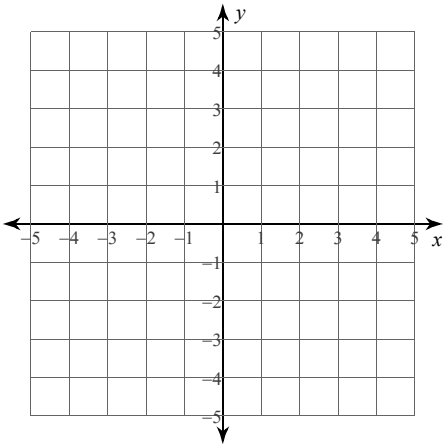

Graph the linear inequality $y \geq 3x + 2$.

Where on the graph are the solutions to the inequality?

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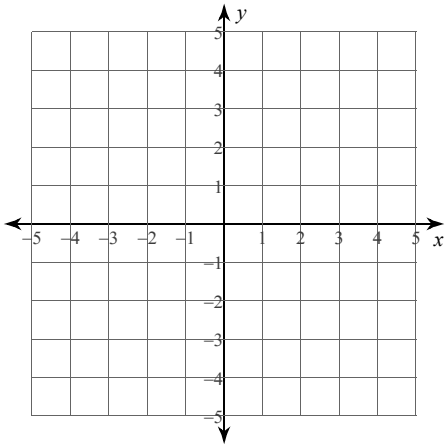

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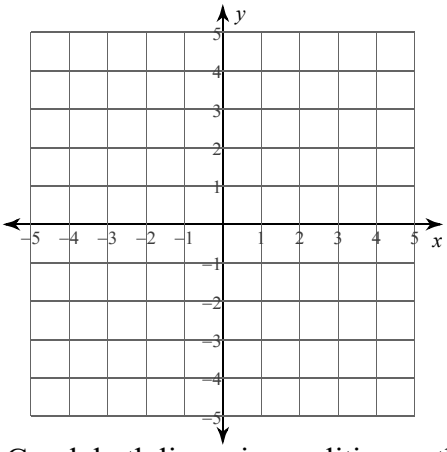

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4) The solutions of a system of linear inequalities are the _____ that are solutions to _____ inequalities in the system.
On a graph the solutions to a system of inequalities is the_____ of the half-planes or where the shaded regions _____.

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- overlap
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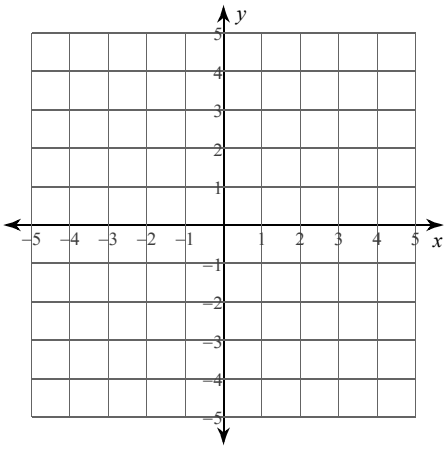
Sketch the solution to each system of inequalities.

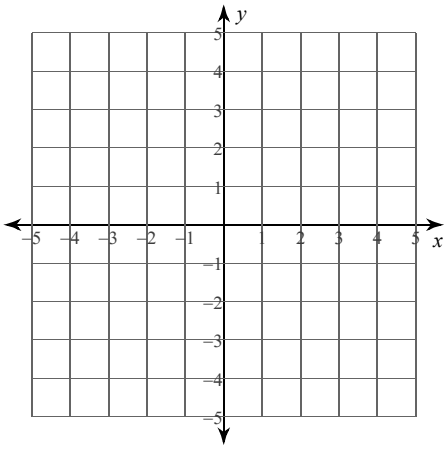
5) $y \geq \frac{1}{2}x + 2$

$x > -2$



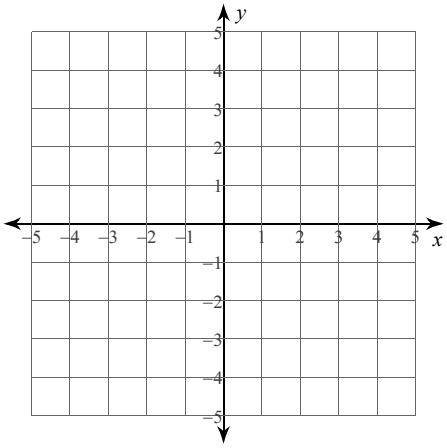
6) $y > -3$

$y > 4x + 1$



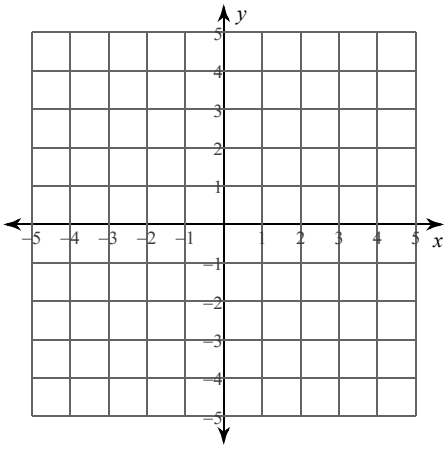
7) $y < -\frac{2}{3}x + 1$

$y \leq \frac{1}{3}x - 2$



8) $y \geq -\frac{2}{3}x + 1$

$x \leq 3$



9) $y < -x - 2$

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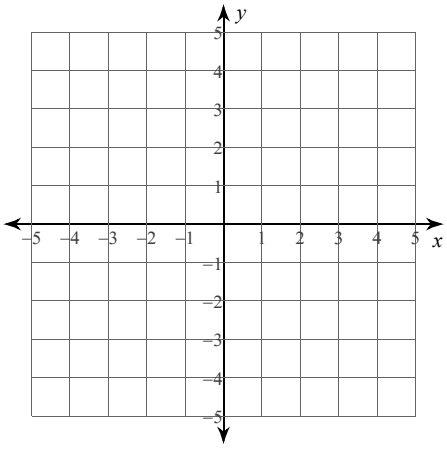

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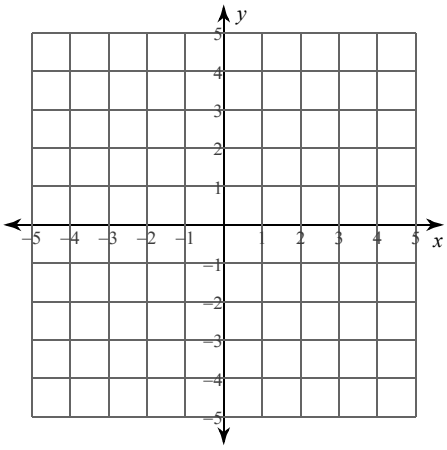
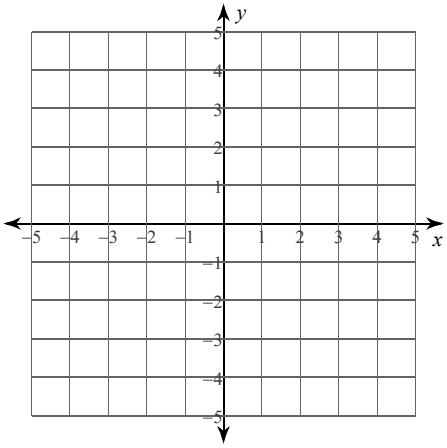
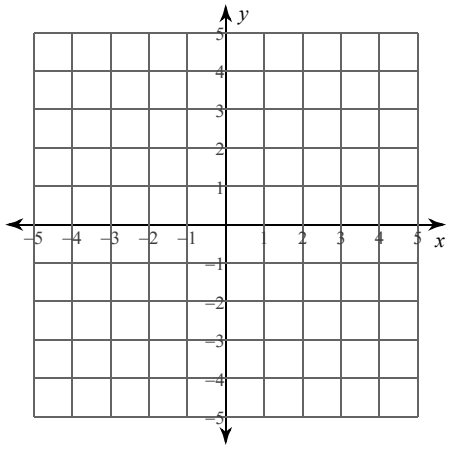


11) $x + y < 2$
$4x + y < -1$



12) $x - 3y > -6$
$4x - 3y \geq 3$



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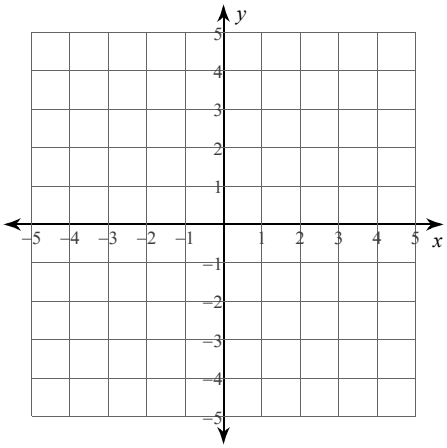

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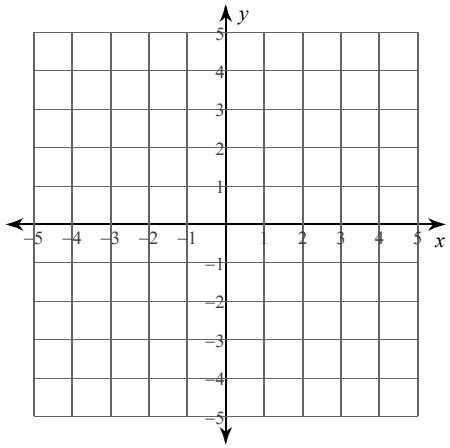
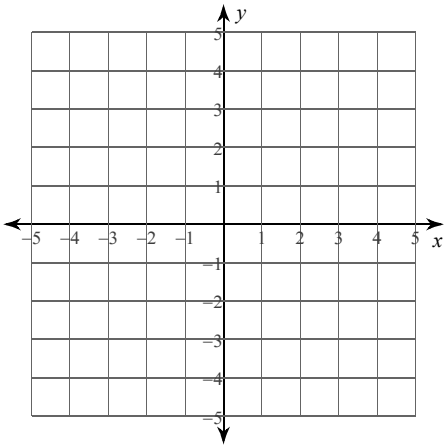


15) $x + 3y \geq 6$
$2x - 3y > 3$



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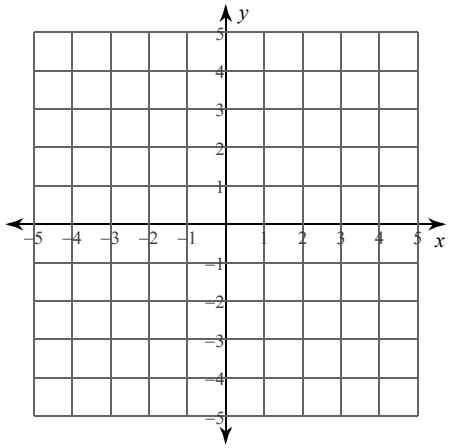

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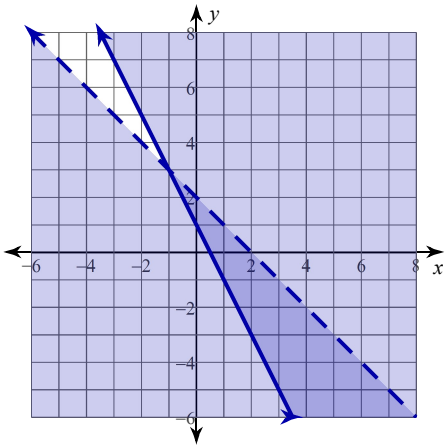

Which x-values make the ordered pair $(x, -5)$ a solution of the system of inequalities represented by the graph below?

A) $-9 \le x < -3$ B) $-3 \le x < -2$
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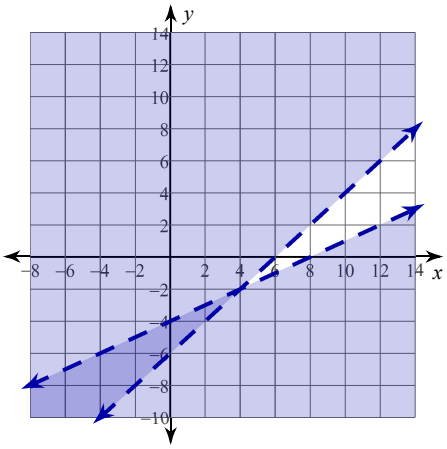

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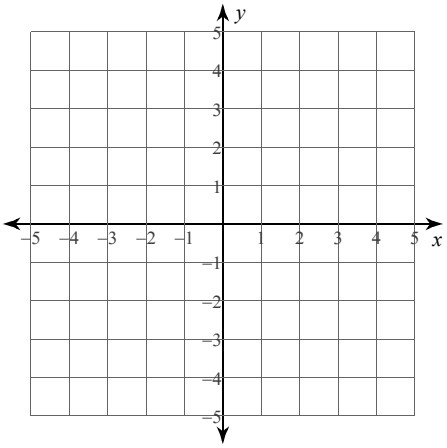

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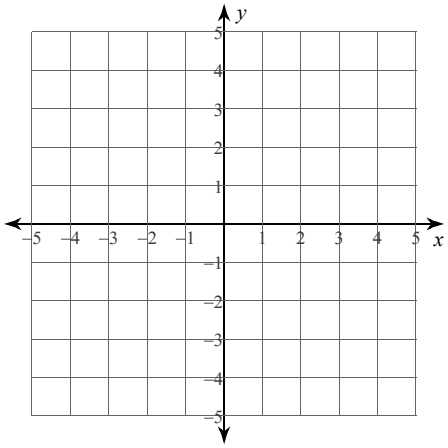

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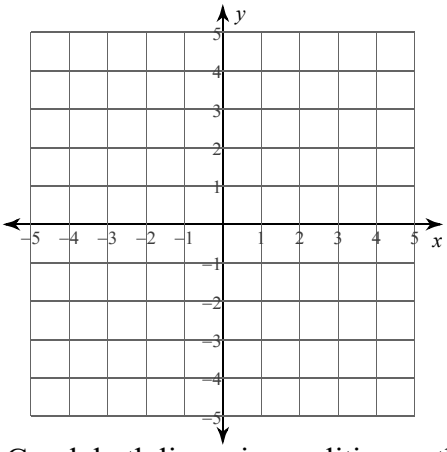

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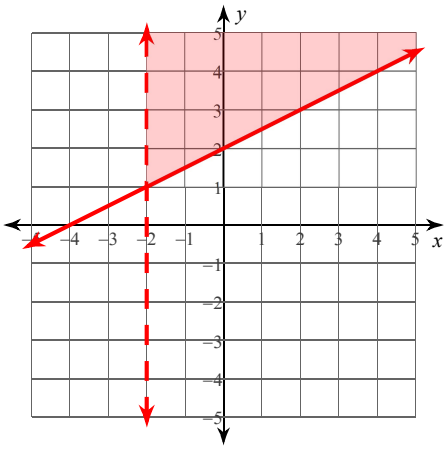

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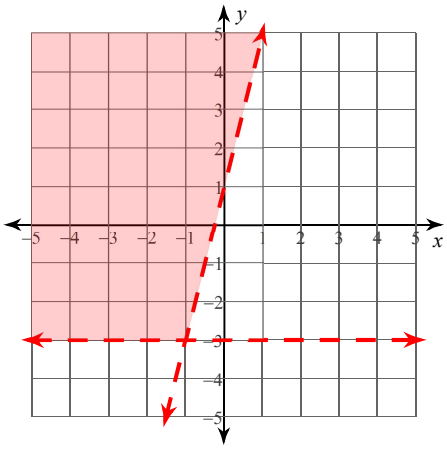

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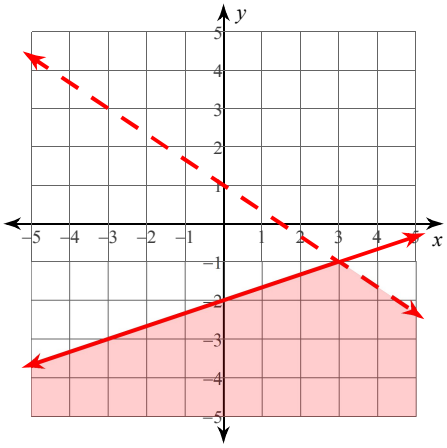

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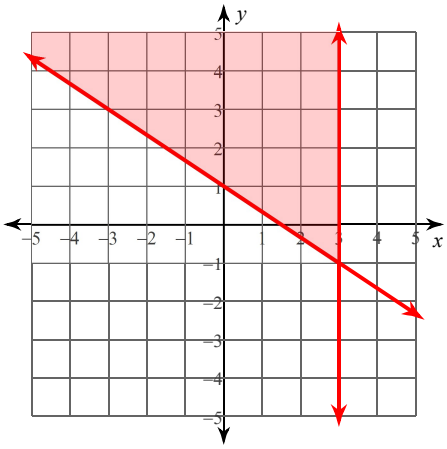

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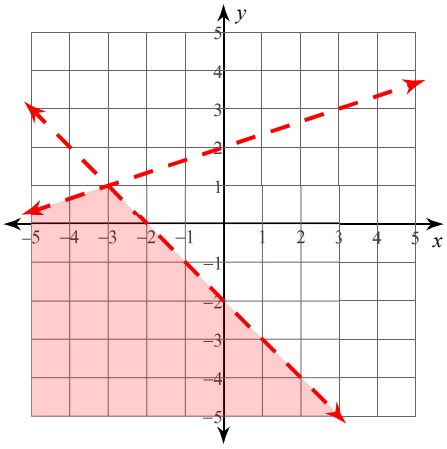

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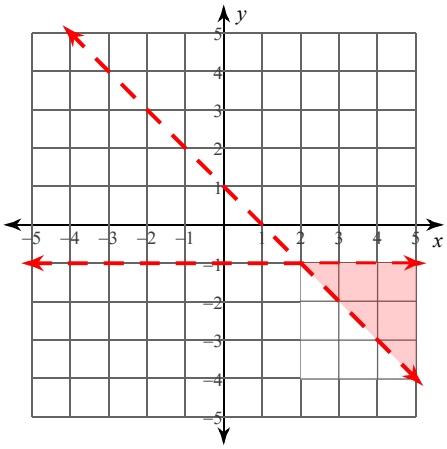

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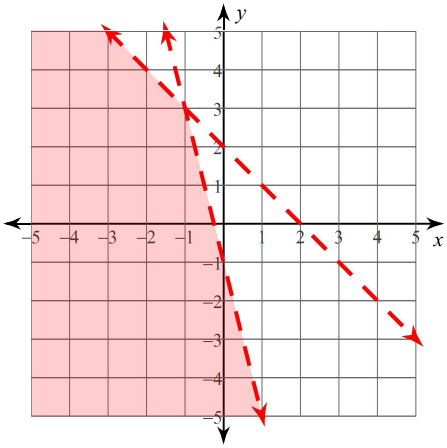

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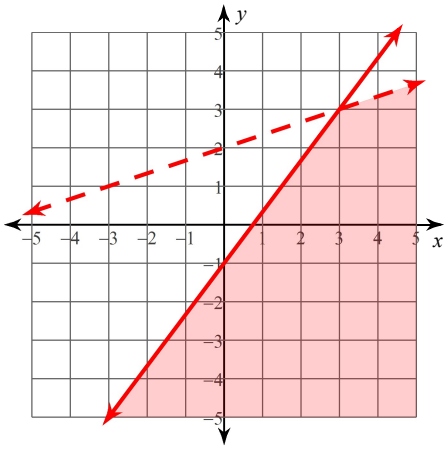

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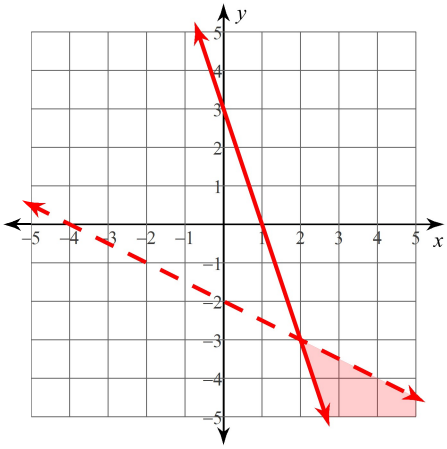

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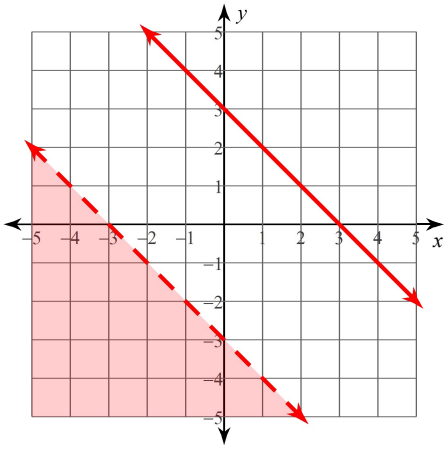

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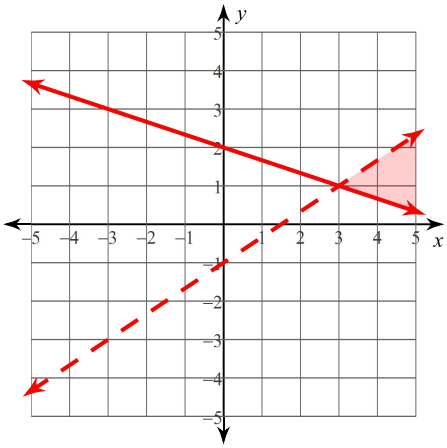

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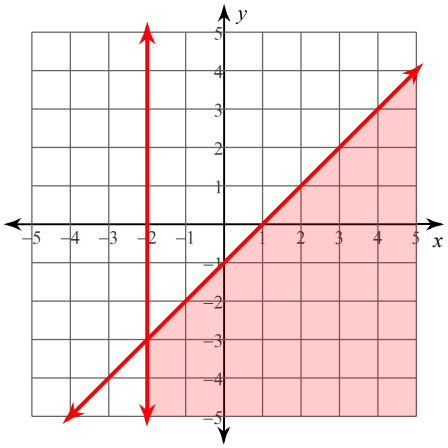

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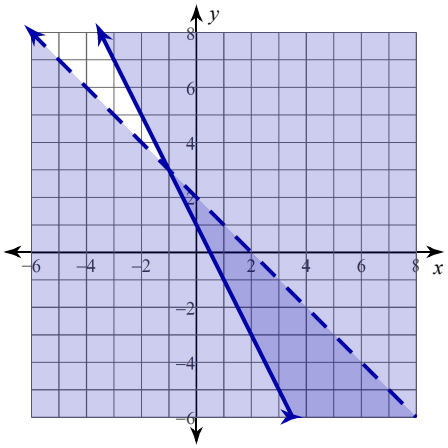

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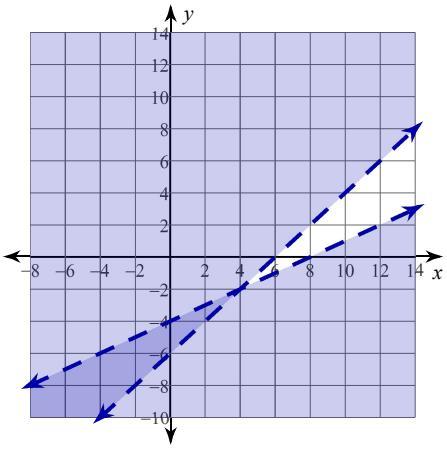

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