Thursday, April 14, 2011
8:32 AM

Graphing Inequalitie...

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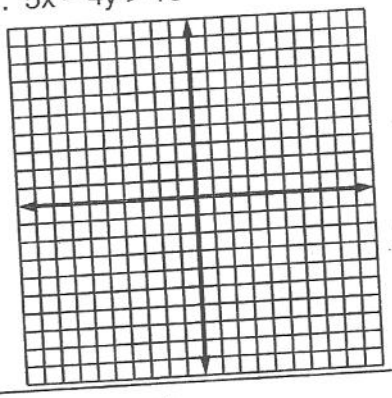
Name _____

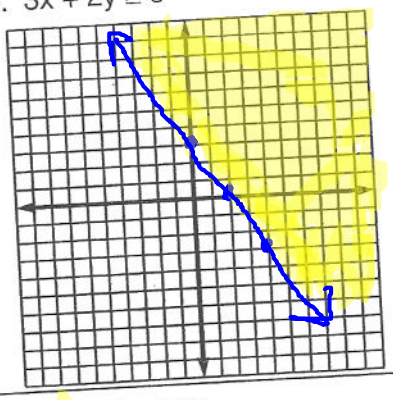
Graphing Linear Inequalities

Graph the solution set.

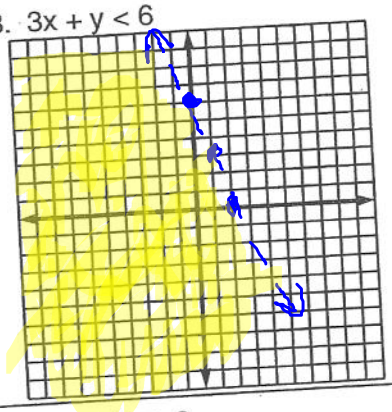
1. $5x - 4y > 10$



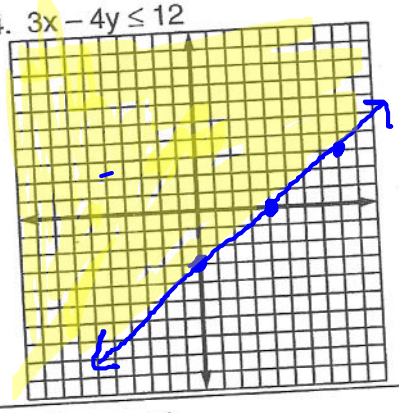
2. $3x + 2y \geq 6$



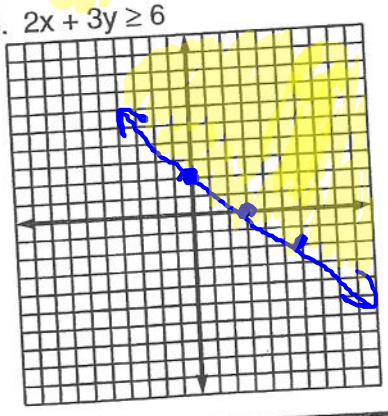
3. $3x + y < 6$



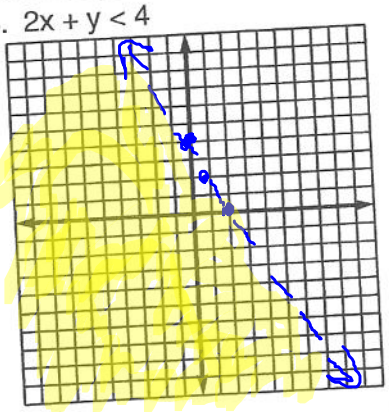
4. $3x - 4y \leq 12$



5. $2x + 3y \geq 6$



6. $2x + y < 4$



Graphing Inequalitie...

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Systems of Linear Inequalities

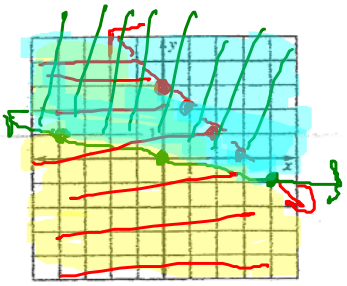
① $x+y<3$ → $-x \quad -x$ → $y<-x+3$ → $m=-1 \; b=3$

② $x+4y\geq 0$ → $-x \quad -x$ → $\frac{4y}{4} \geq \frac{-x}{4}$ → $y \geq -\frac{1}{4}x$ → $m=-\frac{1}{4} \; b=0$

- **Example 1** ~ *Solve by graphing.*

$x+y<3 \rightarrow y<-x+3$

$x+4y\geq 0 \rightarrow y\geq -\frac{1}{4}x$



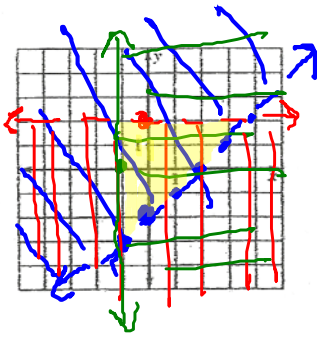
* The graph of the system is the overlap, or intersection, of the two half-planes.

- **Example 2** ~ *Solve by graphing.*

$y<2$

$x\geq -1$

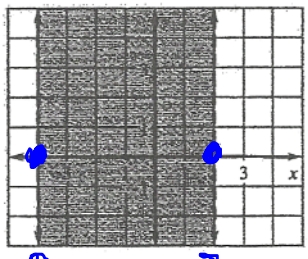
$y>x-2$



- **Example 3** ~ *Write a system of inequalities that defines the shaded region below.*

$x>-4$

$x<2$



dashed lines

Graphing Inequalitie...

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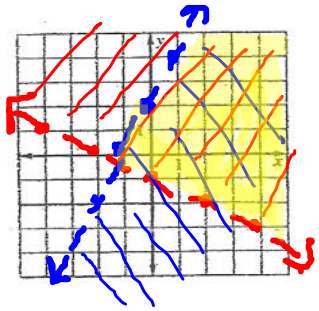
TrY tHeSe.....

- *Graph the system of linear inequalities.*

  $y < 2x + 2$ $m = 2$ $b = 2$

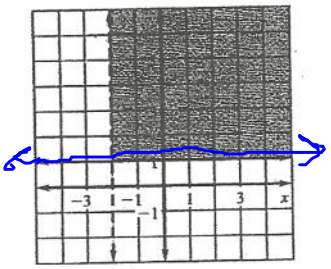
  $y > -\frac{1}{2}x - 1$ $m = -\frac{1}{2}$ $b = -1$



- *Write a system of linear inequalities that defines the shaded region.*

$x > -3$

$y \geq 1$



- *Solve by graphing.*

  $x > 0$

  $y < 0$

  $y \geq x - 4$

  $m = 1$

  $b = -4$