

7-6 Graphing Systems of Linear Inequalities

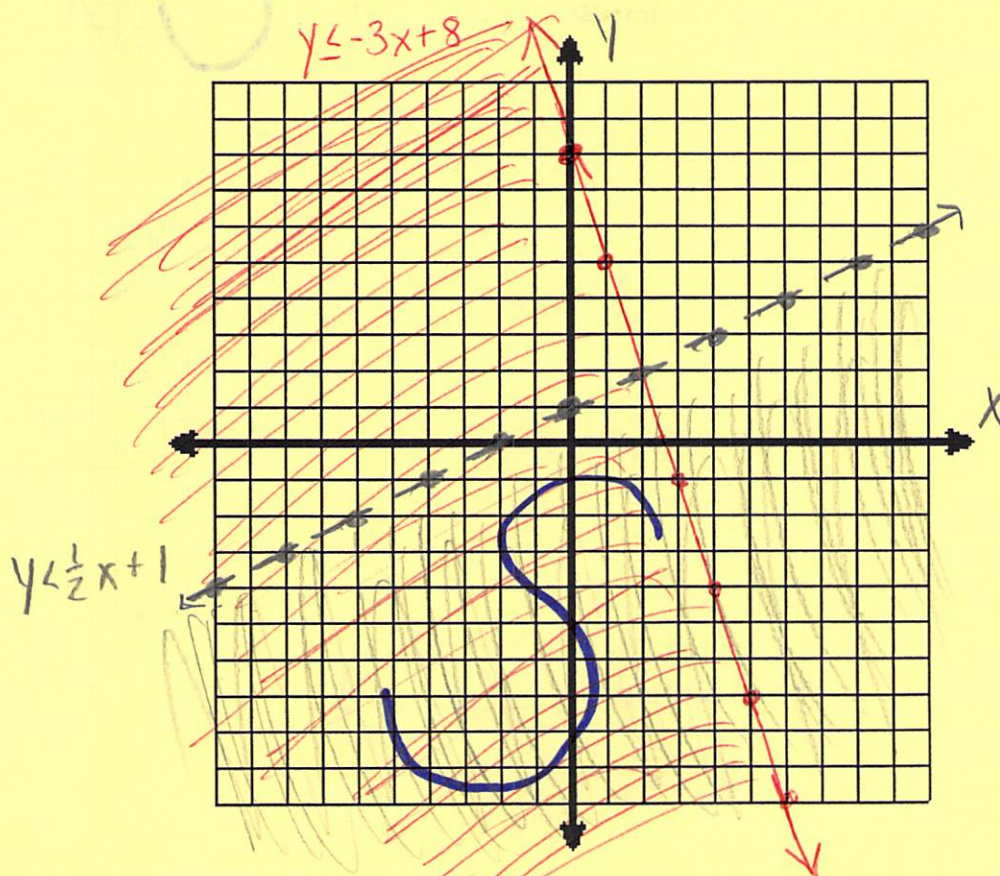
At this point it seems like a good idea to stop and ensure that we are prepared to graph any equation or inequality that I throw your way. Remember to graph, we must solve every equation/inequality for y . For example: $y > mx + b$.

$\frac{3y}{3} < \frac{2x-12}{3} \quad \frac{3}{3}$ $y < \frac{2}{3}x - 4$	$2y - 4x \leq 8$ $+4x \quad +4x$ $\frac{2y}{2} \leq \frac{4x+8}{2} \quad \frac{2}{2}$ $y \leq 2x + 4$	$8 - 4y \geq 16x$ $-16x \quad -16x$ $\frac{-16x+8-4y}{-4} \geq \frac{0}{-4}$ $\frac{-16x+8}{-4} \geq \frac{4y}{-4}$ $-4x+2 \geq y$	$4x - y < -2$ $-4x \quad -4x$ $\frac{-4x-y}{-1} < \frac{-2}{-1}$ $y > 4x + 2$
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Remember from Last Class

Symbol	Shading	Line Type
$\leq$	Below	$\longleftrightarrow$
$\geq$	Above	$\longleftrightarrow$
$<$	Below	$\cdots\cdots\cdots$
$>$	Above	$\cdots\cdots\cdots$

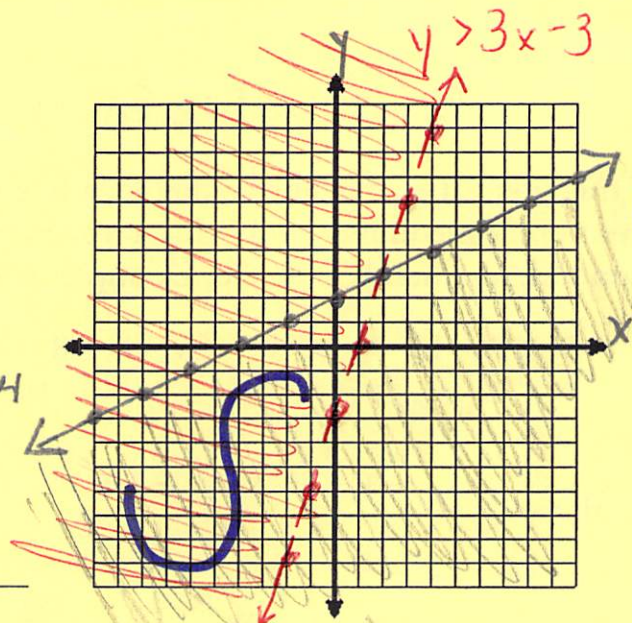
1. $y < \frac{1}{2}x + 1$
 $y \leq -3x + 8$



Practice Problems

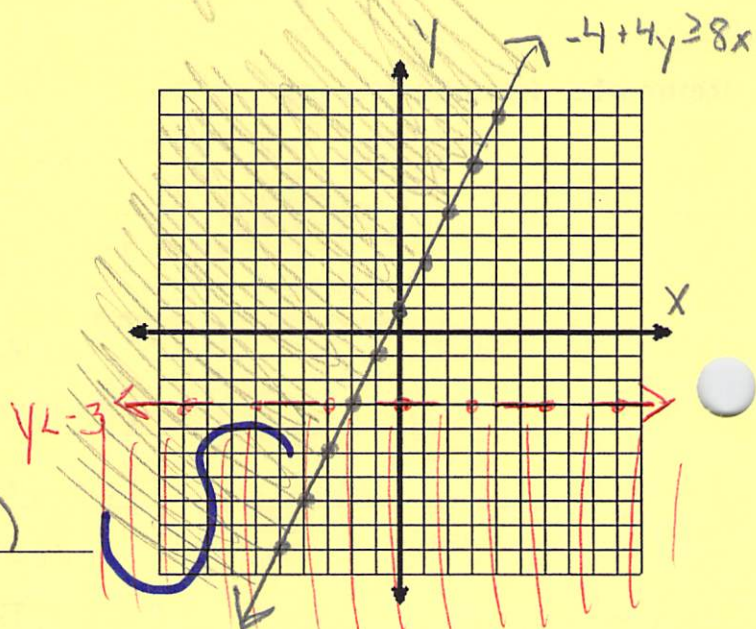
1. $2y \leq x+4$ $\rightarrow$ $\frac{2y}{2} \leq \frac{x+4}{2}$
 $y > 3x-3$
 $y \leq \frac{1}{2}x + 2$

$2y \leq x+4$



Name a Point in Your Solution Set (0,0)

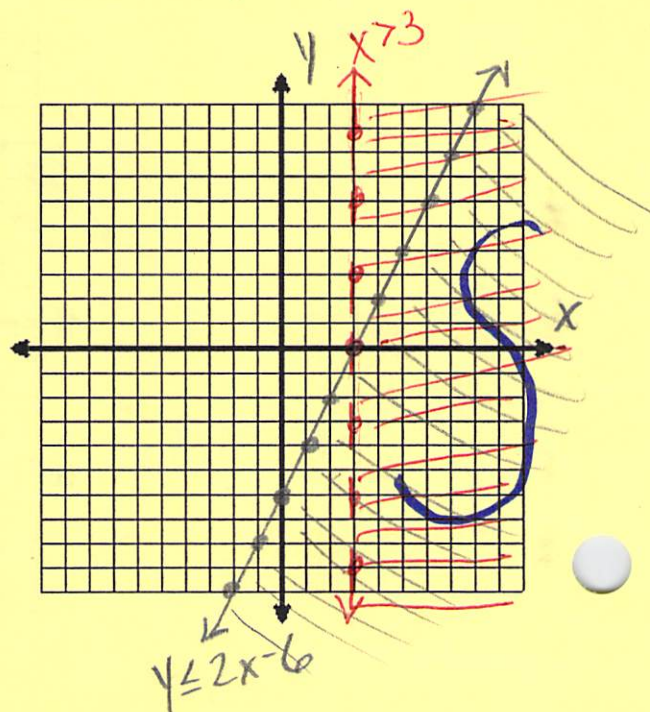
2. $y < -3$
 $-4+4y \geq 8x$
 $+4$ $+4$
 $\frac{4y}{4} \geq \frac{8x+4}{4}$
 $y \geq 2x+1$



Name a Point in Your Solution Set (-5,-5)

$x = 3$

3. $2x-y \geq 6$ $\rightarrow$ $2x-y \geq 6$
 $x > 3$ $-2x$ $-2x$
 $\frac{-y}{-1} \geq \frac{-2x+6}{-1}$
 $y \leq 2x-6$



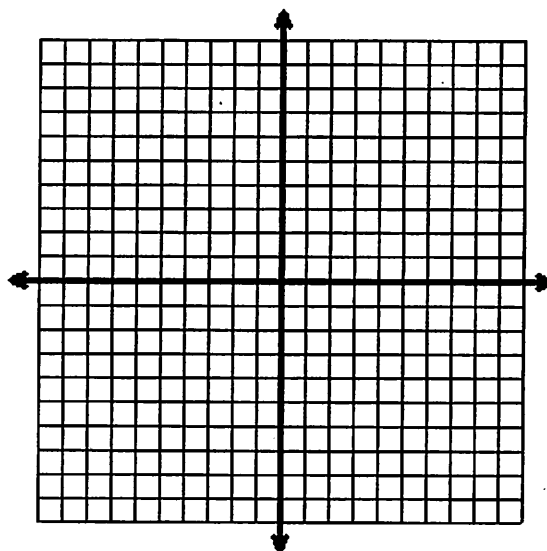
Name a Point in Your Solution Set (6,0)

Practice 7-6

Name _____

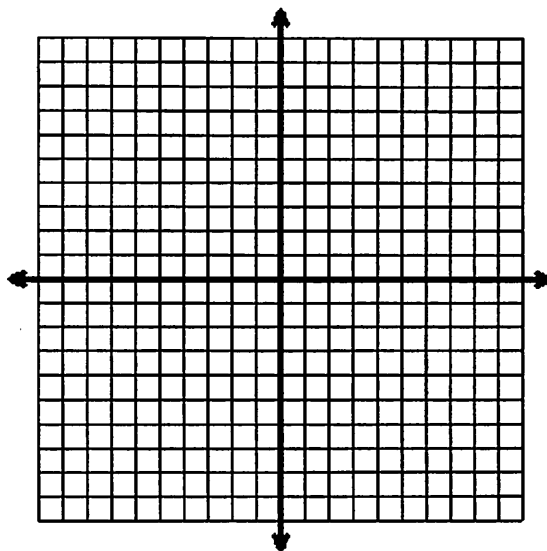
1. $y \geq \frac{5}{2}x + 2$
 $y \geq \frac{1}{2}x - 2$

Name a Point in Your Solution Set _____



2. $y < -2x - 3$
 $2x - y > -1$

Name a Point in Your Solution Set _____



3. $x \leq 2$
 $-9x - 3y < 9$

Name a Point in Your Solution Set _____

