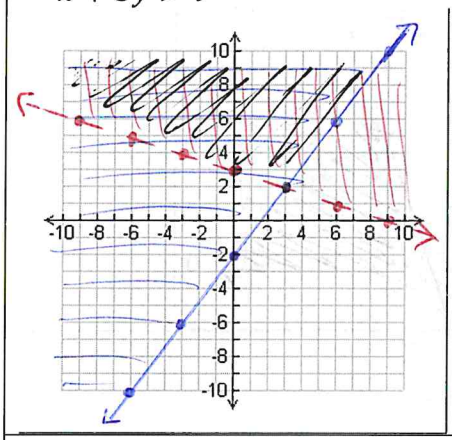
Graphing Systems of Linear Inequalities

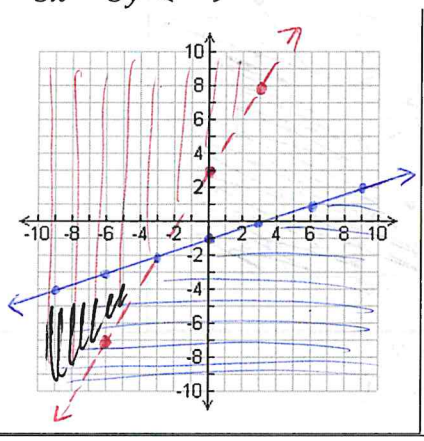
Unit 4: Systems

Sketch the solution to each system of INEQUALITIES:

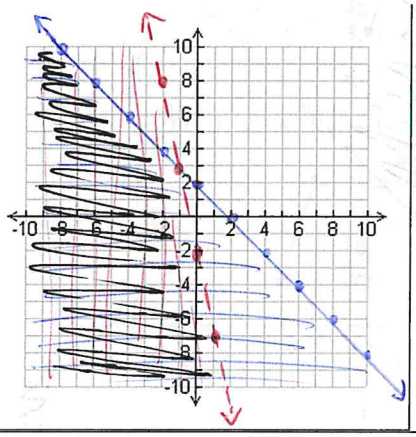
1. $4x - 3y \leq 6$
   $x + 3y > 9$



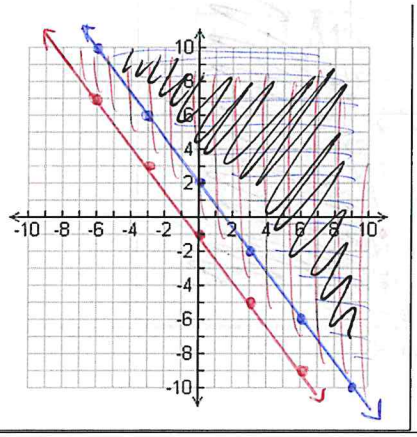
2. $x - 3y \geq 3$
   $5x - 3y < -9$



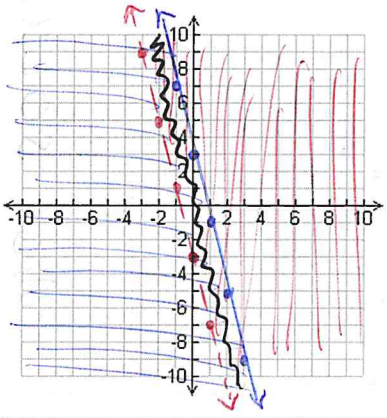
3. $x + y \leq 2$
   $5x + y < -2$



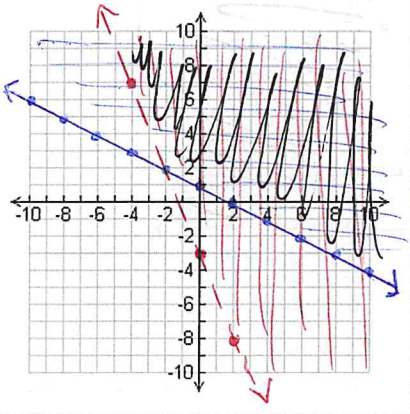
4. $4x + 3y \geq 6$
   $4x + 3y \geq -3$



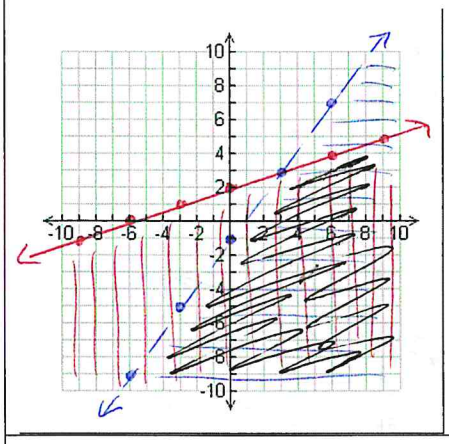
5. $4x + y \leq 3$
   $4x + y > -3$



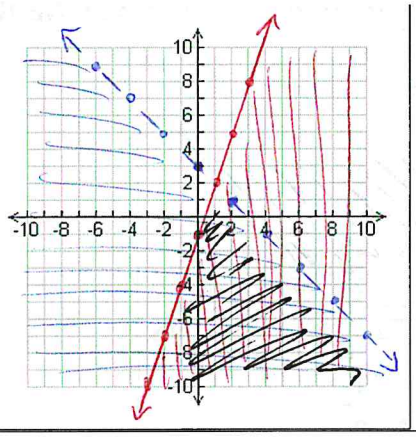
6. $x + 2y \geq 2$
   $5x + 2y > -6$



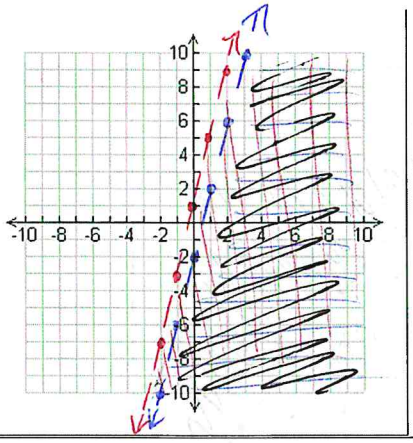
7. $4x - 3y > 3$
$x - 3y \geq -6$



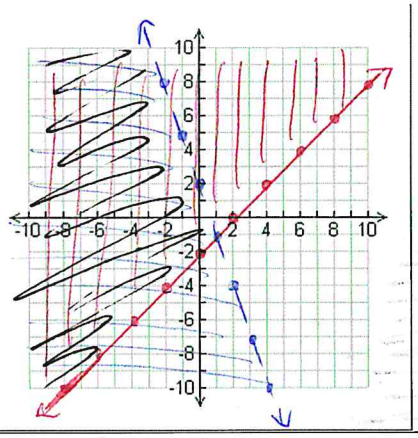
8. $x + y < 3$
$3x - y \geq 1$



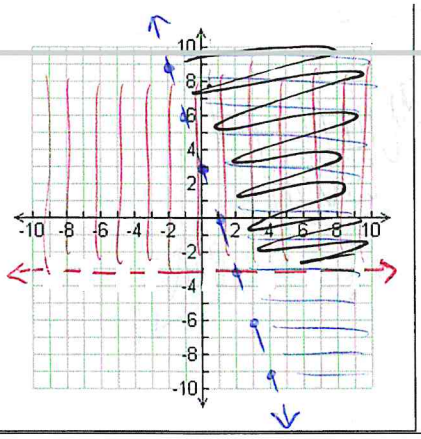
9. $4x - y > 2$
$4x - y > -1$



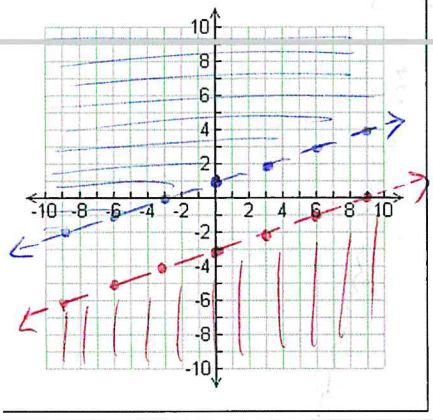
10. $3x + y < 2$
$x - y \leq 2$



11. $y > -3x + 3$
$y > -3$



12. $y > \frac{1}{3}x + 1$
$y < \frac{1}{3}x - 3$



NO SOLUTION

Top Inequalities

① $4x - 3y \leq 6$

$-4x \quad -4x$

$-3y \leq -4x + 6$

$\frac{-3y}{-3} \leq \frac{-4x}{-3} + \frac{6}{-3}$

$y \geq \frac{4}{3}x - 2$

② $x - 3y \geq 3$

$-x \quad -x$

$-3y \geq -x + 3$

$\frac{-3y}{-3} \geq \frac{-x}{-3} + \frac{3}{-3}$

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

③ $x + y \leq 2$

$-x \quad -x$

$y \leq -x + 2$

④ $4x + 3y \geq 6$

$-4x \quad -4x$

$3y \geq -4x + 6$

$\frac{3y}{3} \geq \frac{-4x}{3} + \frac{6}{3}$

$y \geq \frac{-4}{3}x + 2$

⑤ $4x + y \leq 3$

$-4x \quad -4x$

$y \leq -4x + 3$

Bottom Inequalities

$x + 3y > 9$

$-x \quad -x$

$3y > -x + 9$

$\frac{3y}{3} > \frac{-x}{3} + \frac{9}{3}$

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

$5x - 3y < -9$

$-5x \quad -5x$

$-3y < -5x - 9$

$\frac{-3y}{-3} < \frac{-5x}{-3} - \frac{9}{-3}$

$y > \frac{5}{3}x + 3$

$5x + y < -2$

$-5x \quad -5x$

$y < -5x - 2$

$4x + 3y \geq -3$

$-4x \quad -4x$

$3y \geq -4x - 3$

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

$y \geq -\frac{4}{3}x - 1$

$4x + y > -3$

$-4x \quad -4x$

$y > -4x - 3$

Top Inequalities

⑥ $x + 2y \geq 2$

$-x \qquad -x$

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

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

⑦ $4x - 3y > 3$

$-4x \qquad -4x$

$\frac{-3y}{-3} > \frac{-4x}{-3} + \frac{3}{-3}$

$y < \frac{4}{3}x - 1$

⑧ $x + y < 3$

$-x \qquad -x$

$y < -x + 3$

⑨ $4x - y > 2$

$-4x \qquad -4x$

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

$y < 4x - 2$

⑩ $3x + y < 2$

$-3x \qquad -3x$

$y < -3x + 2$

Bottom Inequalities

$5x + 2y > -6$

$-5x \qquad -5x$

$\frac{2y}{2} > \frac{-5x}{2} - \frac{6}{2}$

$y > -\frac{5}{2}x - 3$

$x - 3y \geq -6$

$-x \qquad -x$

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

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

$3x - y \geq 1$

$-3x \qquad -3x$

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

$y \leq 3x - 1$

$4x - y > -1$

$-4x \qquad -4x$

$\frac{-y}{-1} > \frac{-4x}{-1} - \frac{1}{-1}$

$y < 4x + 1$

$x - y \leq 2$

$-x \qquad -x$

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

$y \geq x - 2$