

Two-Variable Inequalities

Goal: To solve linear systems of inequalities in two variables

ex solve

a) $4x + 3y < 12$

(1) Solve the related eqn.
 $4x + 3y = 12$

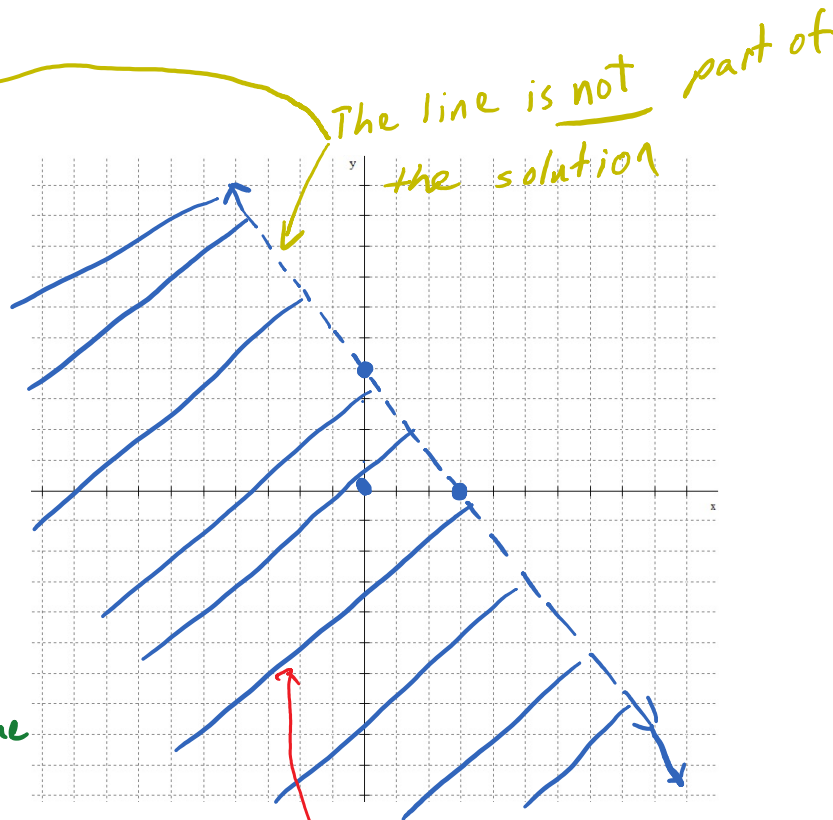
x	y
3	0
0	4

(2) Use test point to determine where to shade

T.P. (0,0)

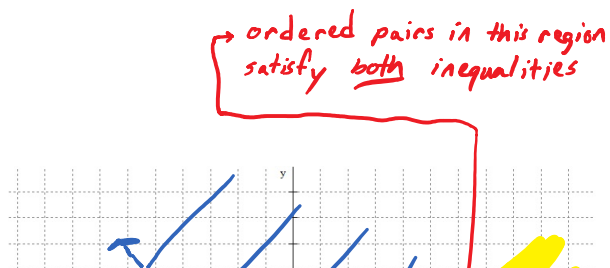
$4(0) + 3(0) < 12$

$0 < 12$ True



b) $y \leq x$ (solid)
 $y > -x + 1$ (dotted)

★ Graph both inequalities on the same plane. The overlapping



★ Graph both inequalities on the same plane. The overlapping shaded region is the solution

$$y = x$$

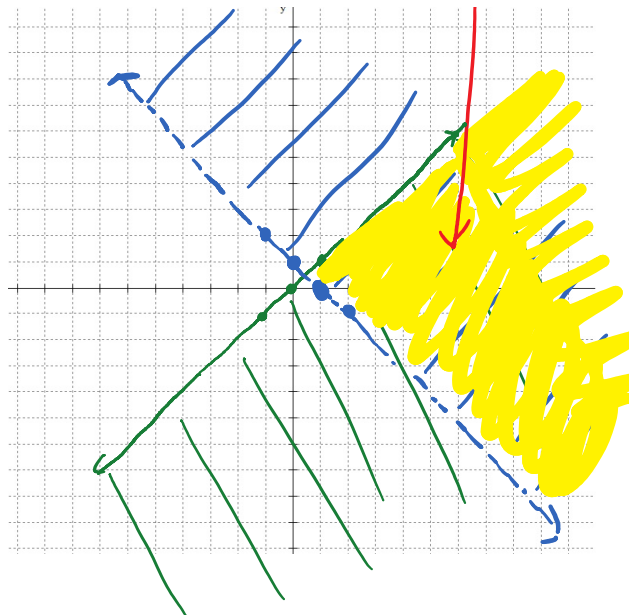
x	y
0	0
1	1

T.P. (1,0)
True
 $0 \leq 1$

$$y > -x + 1$$

$$y = -x + 1$$

$m = \frac{-1}{1}$ rise
run $b = 1$
(0,1)



c) $2y - x \leq 2$
 $y - 3x \geq -4$
 $y \geq -1$

$$2y - x = 2$$

x	y
-2	0
0	1

T.P. (0,0)
 $0 \leq 2$ True

$$y - 3x = -4$$

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

$$y = -1$$

