

Name

# 6.6 Solve Systems of Linear Inequalities

Alg I

I can solve systems of linear inequalities in 2 variables.

## System of Linear Inequalities:

(System of inequalities) 2 or more linear inequalities with the same variables.

Semester Exam

## Solution of a system of linear Inequalities

An ordered pair  $(x,y)$  that works for both inequalities in a system

## Graph of a system of linear Inequalities

The graph of all solutions of the system.

### Example 1:

1)  $y < x - 4$  ①

$$y = x - 4$$

$$m = 1$$

$$b = (0, -4)$$

$$(0, 0)$$

$$0 < 0 - 4$$

$$0 < -4 \quad \times$$

$$y \geq -x + 3$$

$$y = -x + 3$$

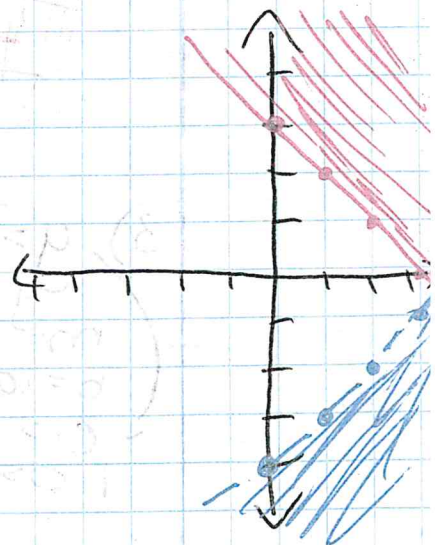
$$m = -1$$

$$b = (0, 3)$$

$$(0, 0)$$

$$0 \geq -0 + 3$$

$$0 \geq 3 \quad \times$$



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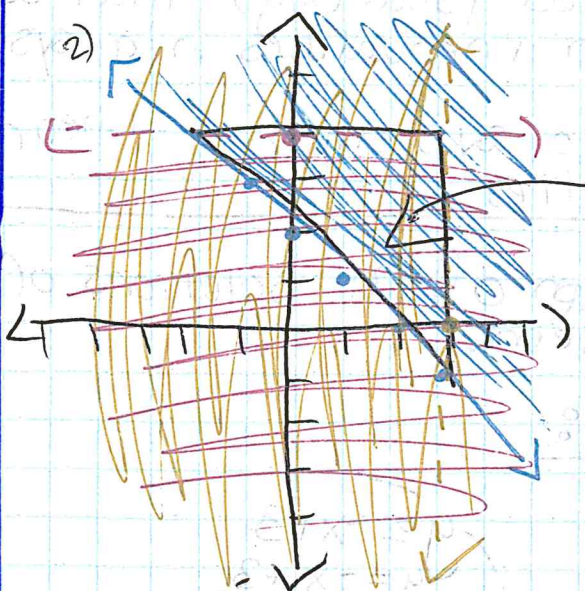
I can solve systems of linear inequalities in 2 variables.  
Semester Exam

## Example 2:

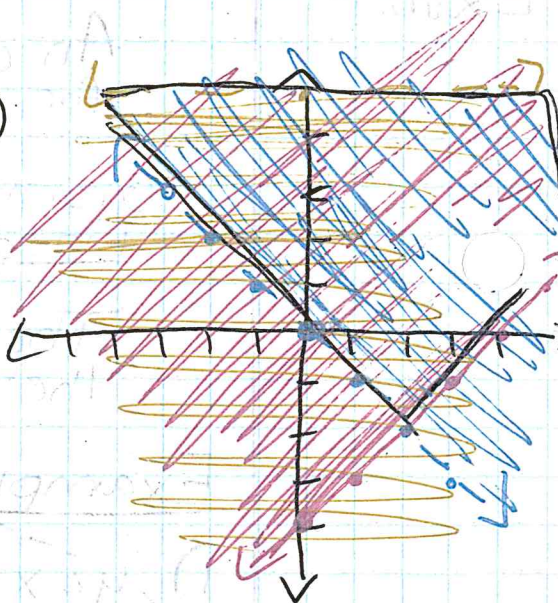
2)  $y \geq -x + 2$  ①  
 $y = -x + 2$   
 $m = -1$   
 $b = (0, 2)$   
 $0 \geq -0 + 2$   
 $0 \geq 2$  X

$y < 4$  ②  
 $y = 4$   
 $0 < 4$  ✓

$x < 3$  ③  
 $x = 3$   
 $0 < 3$  ✓



3)



3)  $y > -x$  ①  
 $y = -x$   
 $m = -1$   
 $b = (0, 0)$   
 $(1, 1)$   
 $1 > -1$  ✓

$y \geq x - 4$  ②  
 $y = x - 4$   
 $m = 1$   
 $b = (0, -4)$   
 $0 \geq 0 - 4$   
 $0 \geq -4$  ✓

$y < 5$  ③  
 $y = 5$   
 $0 < 5$  ✓

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## Example 3:



$$m = 2/3$$

$$b = -1 \quad (0,0) \checkmark$$

$$y = 2/3x - 1$$

$$0 \stackrel{?}{=} 2/3(0) - 1$$

$$0 > -1$$

$$x = 3 \quad (0,0) \checkmark$$

$$0 \stackrel{?}{=} 3$$

$$0 \leq 3$$

$$y > 2/3x - 1, \quad x \leq 3$$



$$y = 4 \quad (0,0) \checkmark$$

$$0 \leq 4$$

$$y \leq 4$$

$$x = 2 \quad (0,0) \checkmark$$

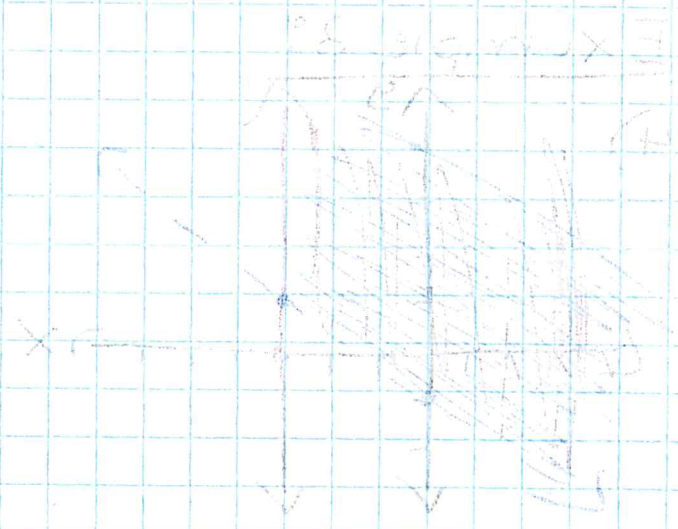
$$0 < 2$$

$$x < 2$$

$$y \leq 4, \quad x < 2$$

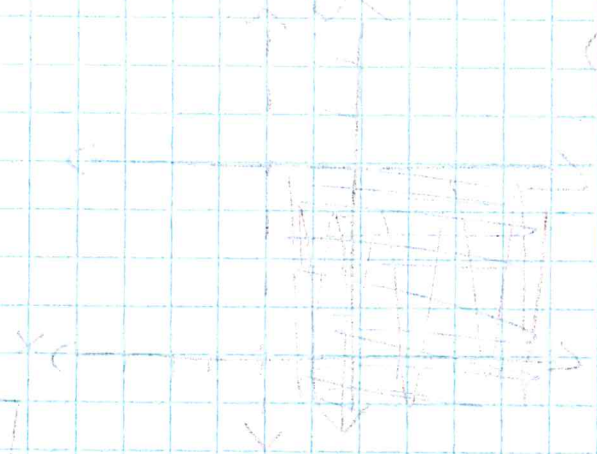
TO ZONE I B/C  
 [Liquor Industries]

$v(0,0)$   $H=0$   
 $H=0$   
 $H=0$   
 $v(0,0)$   $H=0$   
 $H=0$   
 $H=0$



$[B \times X, 1 - X \times B < 0]$

$v(0,0)$   $H=0$   
 $H=0$   
 $H=0$   
 $v(0,0)$   $H=0$   
 $H=0$   
 $H=0$



$[B \times X, 1 - X \times B < 0]$