Algebra 2 Name_____ ID: 1

Unit 1 Systems Test Review Guide

Date_____ Period____

Solve the following systems of equations by either eilimination or substitution.

1) $-3x + 5y = -15$
$2x - 5y = 10$

2) $-x + y = 2$
$x - 4y = -11$

3) $y = 3x - 8$
$-4x - 3y = -2$

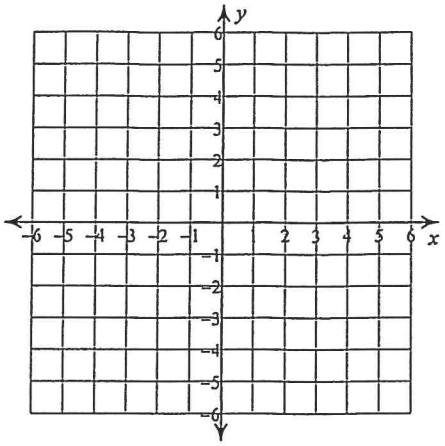
4) $y = -3x - 6$
$4x + 2y = -8$

5) $x + 2y = -2$
$-4x - 3y = 3$

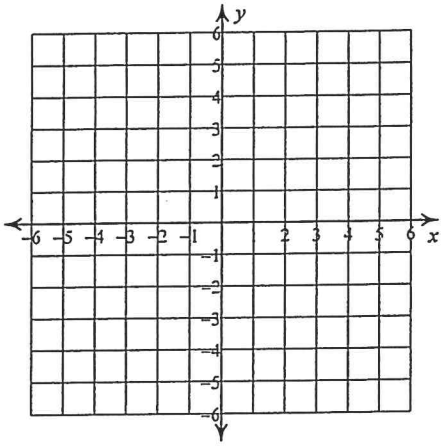
6) $3x + y = -10$
$4x - 4y = 8$

Sketch the graph of each linear inequality. State one solution to the inequalitiy and which quadrant this solution lies in.

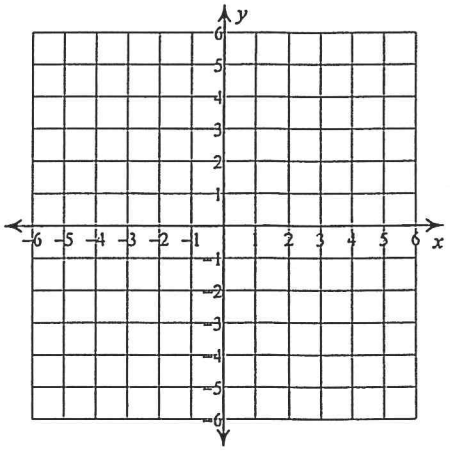
7) $y \geq -\frac{5}{3}x + 5$



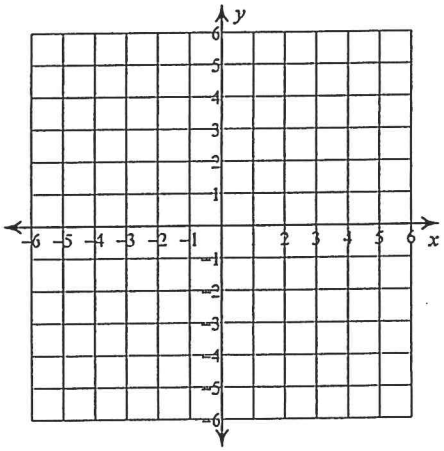
8) $y < \frac{3}{4}x - 2$



9) $y < -2x - 5$



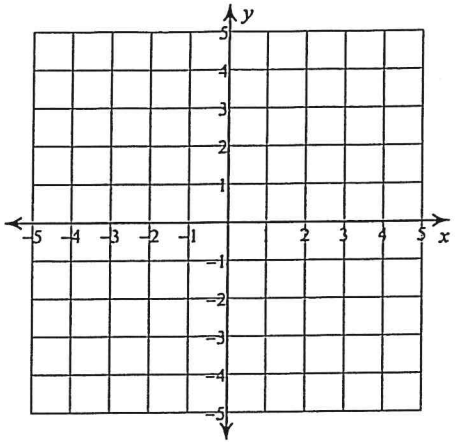
10) $y \leq 7x - 2$



Sketch the solution to each system of inequalities. State one solution to the inequality and which quadrant this solution lies in.

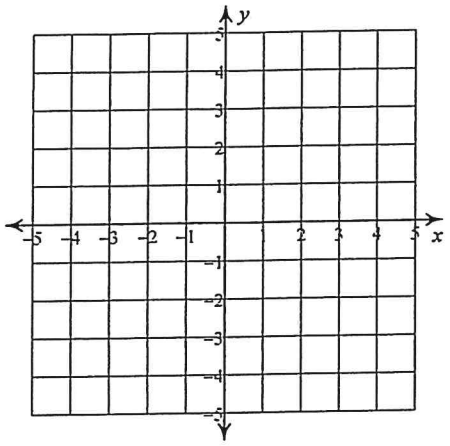
11) $y < -\frac{4}{3}x + 2$

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



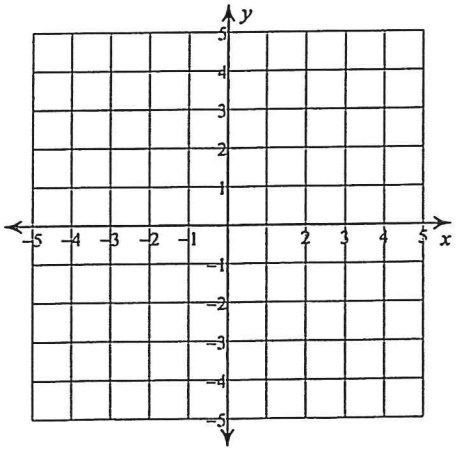
12) $y > \frac{1}{2}x - 2$

$y \geq 2x + 1$



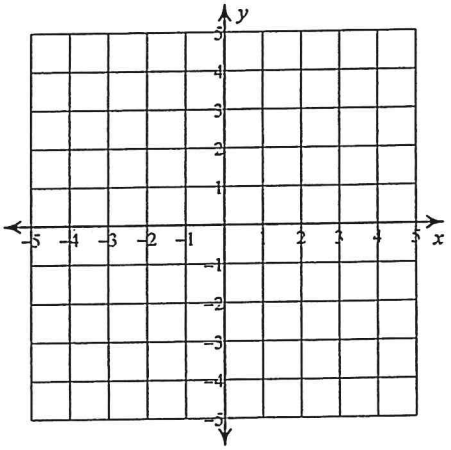
13) $y < x - 2$

$x \geq 3$

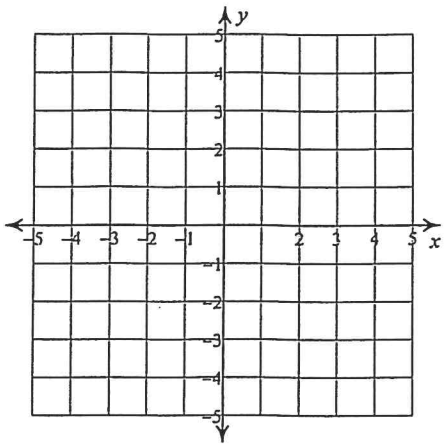


14) $y \geq -3x - 3$

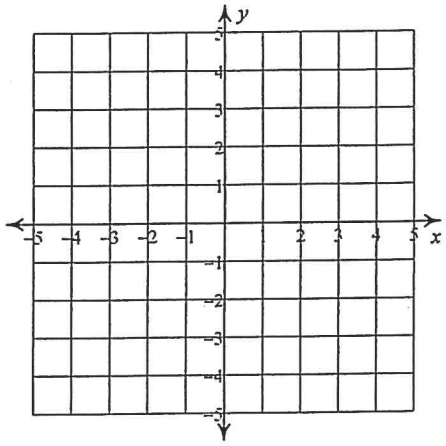
$y \geq -\frac{1}{2}x + 2$



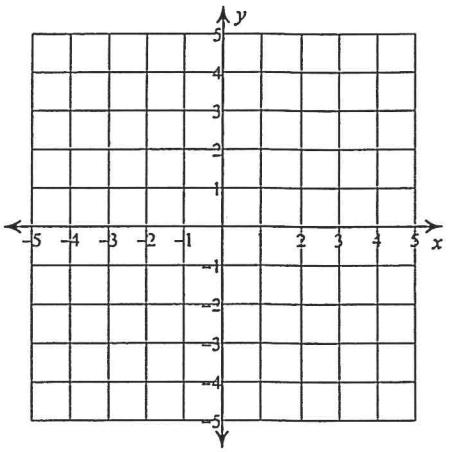
15) $4x - 3y \geq 6$
$x + 3y \geq 9$



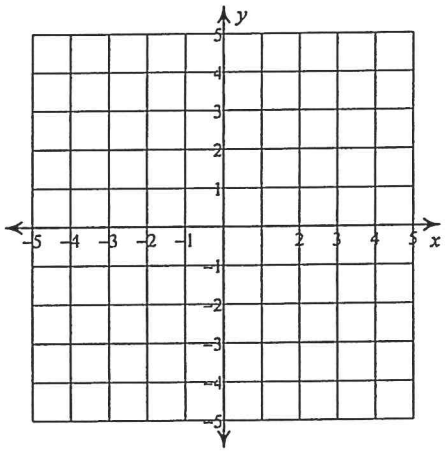
16) $2x + y \geq 3$
$4x - y > 3$



17) $x + 3y > -6$
$4x + 3y > 3$



18) $4x + y \leq -1$
$x + y < 2$



Without graphing, determine if the given points satisfy the inequality. Explain why or why not.

19. $2x - 7y \geq 14$

Test Point:	Yes?	No?	Explain:
(0, -2)			
(4, 3)			
(-2, -6)			

20. $3x - 2y < -4$

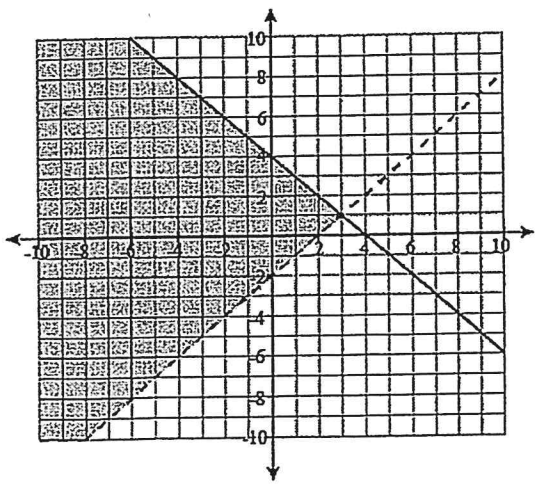
Test Point:	Yes?	No?	Explain:
(4, 8)			
(0, 4)			
(-2, -2)			

21. $y > -x + 8$

Test Point:	Yes?	No?	Explain:
(2, 6)			
(-2, 1)			
(7, 2)			

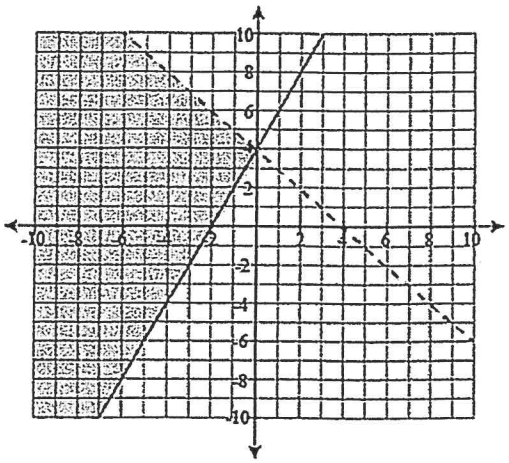
Determine if the following points are solutions to the system of linear inequalities. Explain your reasoning!

22.



Check Point:	Solution? (Yes or No)	Explanation
(3, 1)		
(0, 0)		
(6, 4)		
(-4, 8)		
(2, -6)		

23.



Check Point:	Solution? (Yes or No)	Explanation
(6, -2)		
(0, 0)		
(1, 6)		
(0, 4)		
(-4, 4)		

Write a system of inequalities to represent each of the following scenarios. Don't forget to define your variables!

24. You can work a total of no more than 41 hours each week at your two jobs. Housecleaning pays $5 per hour and your sales job pays $8 per hour. You need to earn at least $254 each week to pay your bills. Write a system of inequalities that shows the various numbers of hours you can work at each job.

25. Hassan is doing a fundraiser for soccer. He needs to sell at least $100 worth of items. Candy bars cost $2 each and shirts cost $10 each. He must sell more than 4 candy bars.

26. Sam is going to the store to buy pumpkins. Small pumpkins cost $2.50 and large pumpkins cost $6.00. He needs to buy at least 20 pumpkins, and he can spend no more than $90.

27. You can work a maximum of 40 hours a week. You need to make $400 in order to cover your expenses. Your office job pays $12 an hour and your babysitting job pays $10 an hour.