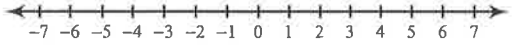
Kuta Software - Infinite Algebra 1 Name_____

Graphing Inequalities

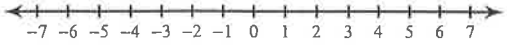
Date_____ Period____

Draw a graph for each inequality.

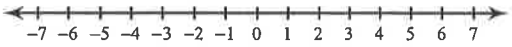
1) $n \leq -5$



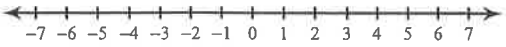
2) $n \leq 5$



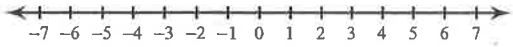
3) $x < 1$



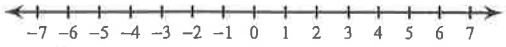
4) $r > 2$



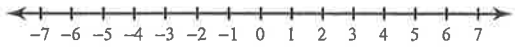
5) $n > 5$



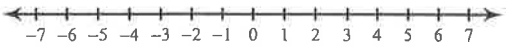
6) $r \leq -2$



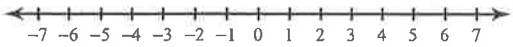
7) $k \leq -2$



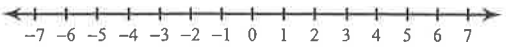
8) $m < -5$



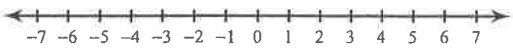
9) $x \geq 2$



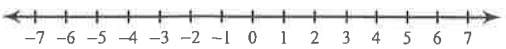
10) $-5 \geq v$



11) $-2 \geq v$

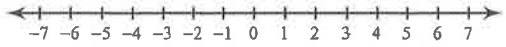


12) $x < 5$

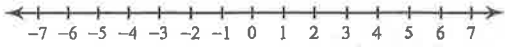


(answers at the back)

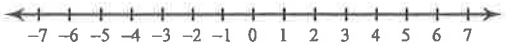
13) $-x \geq 2$



14) $5 \geq -a$

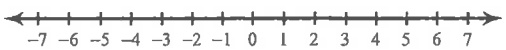


15) $x \leq 2$

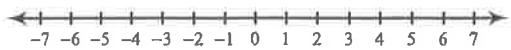


16) $x \leq 5$

17) $-5 > b$

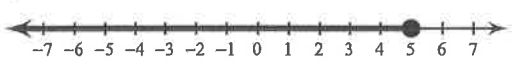


18) $-2 > b$

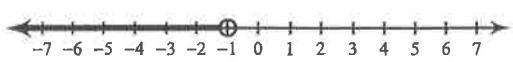


Write an inequality for each graph.

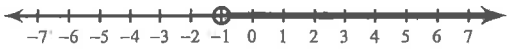
19)



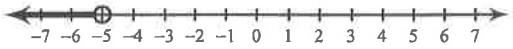
20)



21)

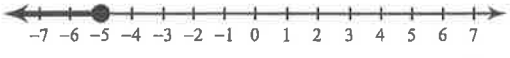


22)



23)

24)



Kuta Software - Infinite Algebra 1

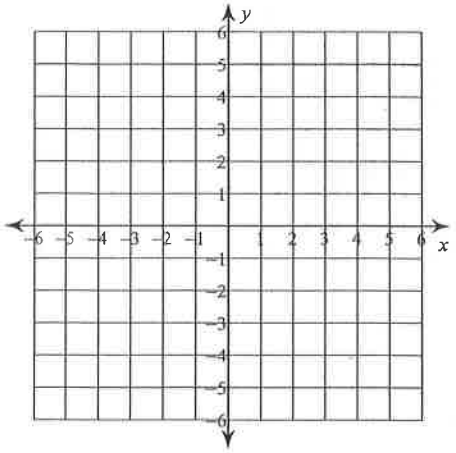
Name_____

Graphing Linear Inequalities

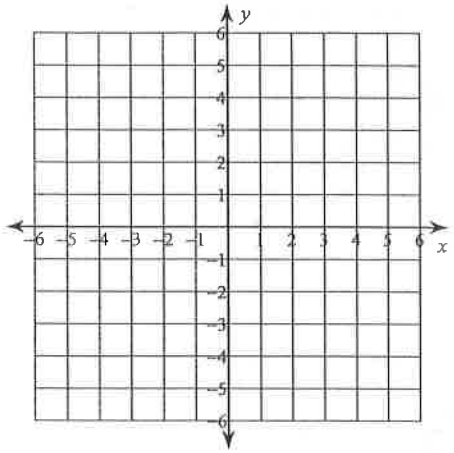
Date_____ Period____

Sketch the graph of each linear inequality.

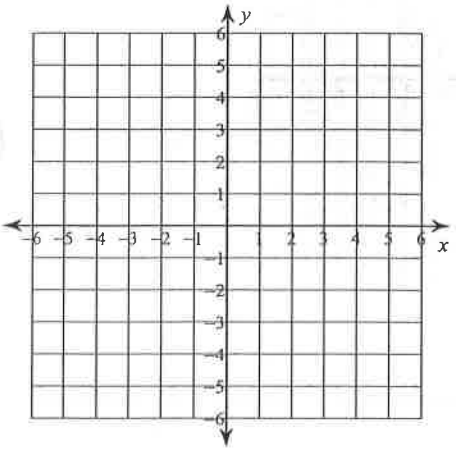
1) $y \geq -3x + 4$



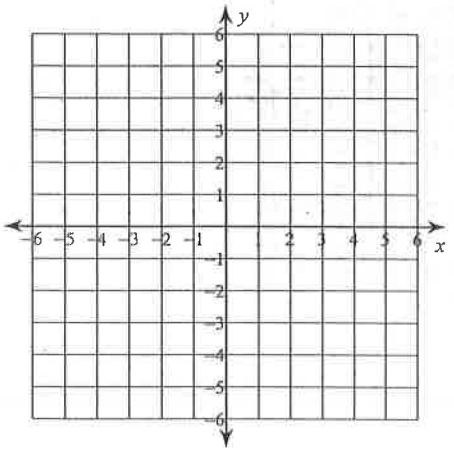
2) $y \leq \frac{3}{5}x - 5$



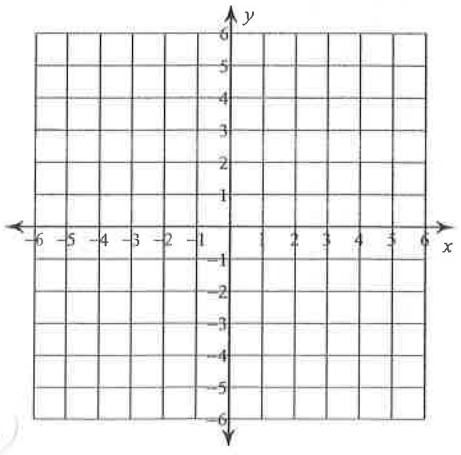
3) $y > -x - 5$



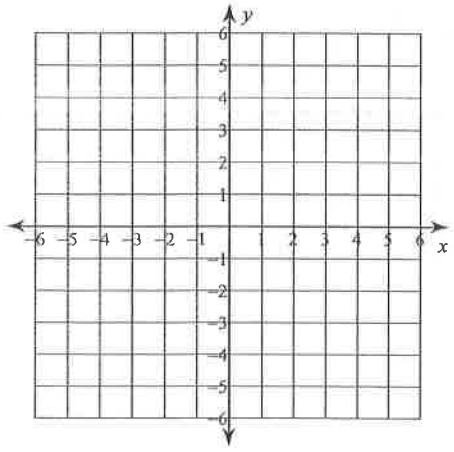
4) $y > -4$



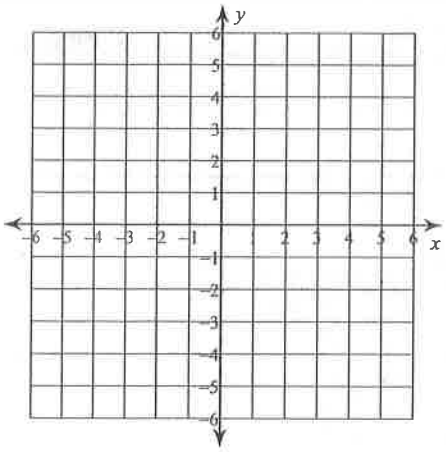
5) $y > 2x - 5$



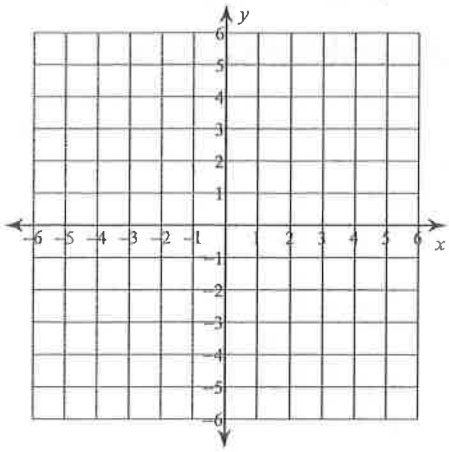
6) $y \geq \frac{7}{4}x + 2$



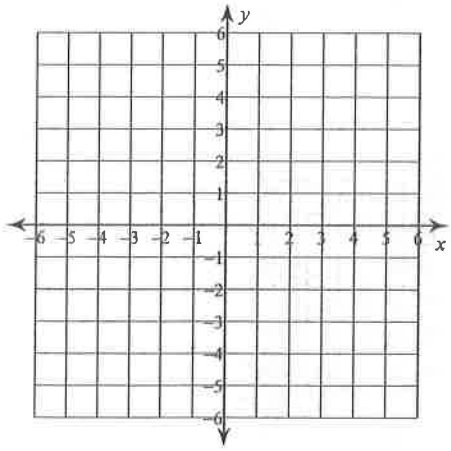
7) $x < -5$



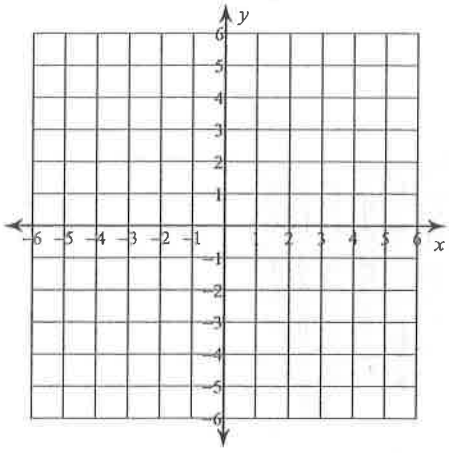
8) $y \leq \frac{4}{3}x - 4$



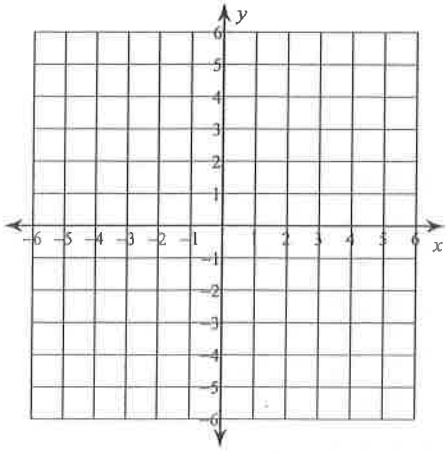
9) $3x - 2y < 10$



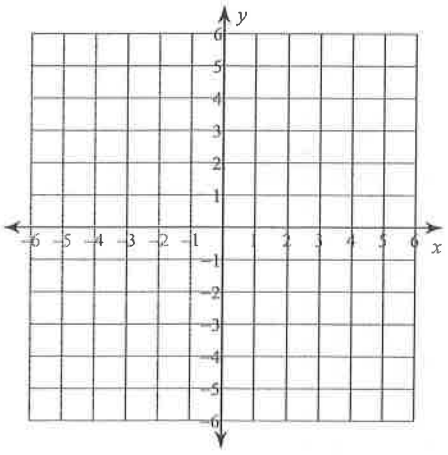
10) $5x - 3y \leq -15$



11) $y \geq 4$



12) $x - y > 2$



Kuta Software - Infinite Algebra 2

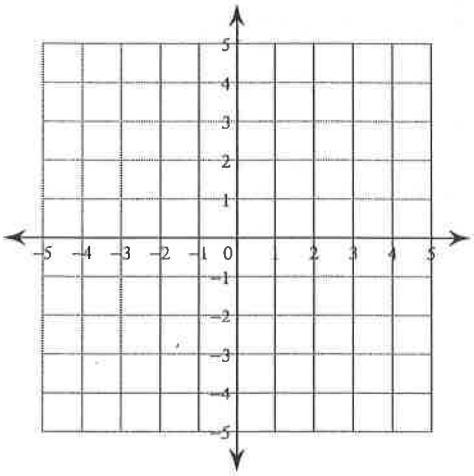
Name_____

Systems of Inequalities

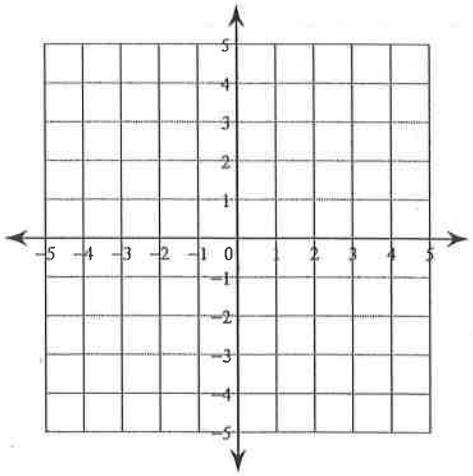
Date_____ Period____

Sketch the solution to each system of inequalities.

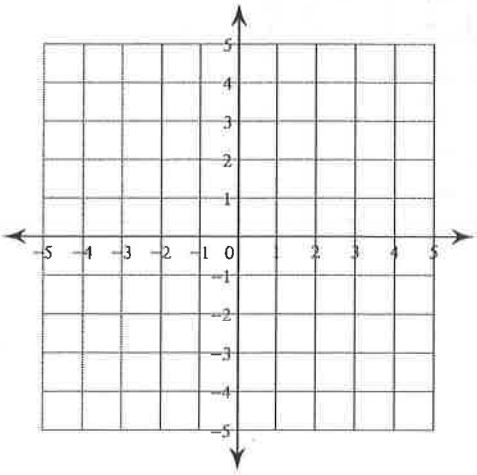
1) $y > 4x - 3$
$y \geq -2x + 3$



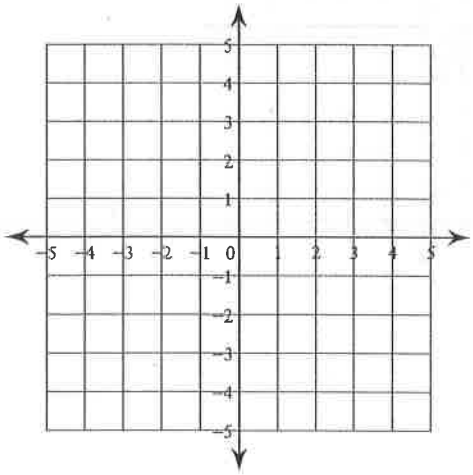
2) $y \geq -5x + 3$
$y > -2$



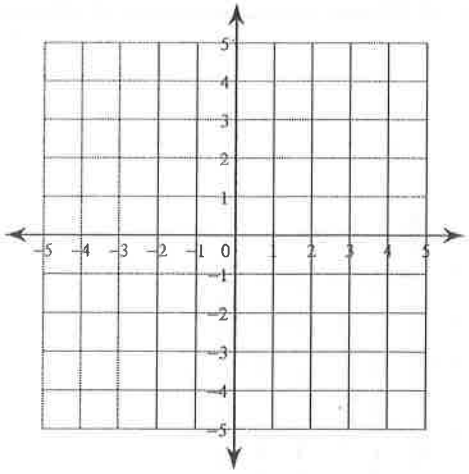
3) $y < 3$
$y \leq -x + 1$



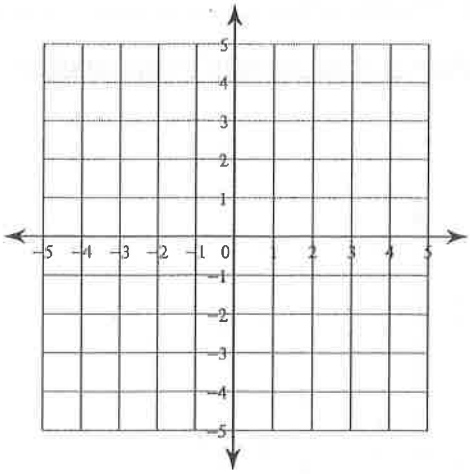
4) $y \geq x - 3$
$y \geq -x - 1$



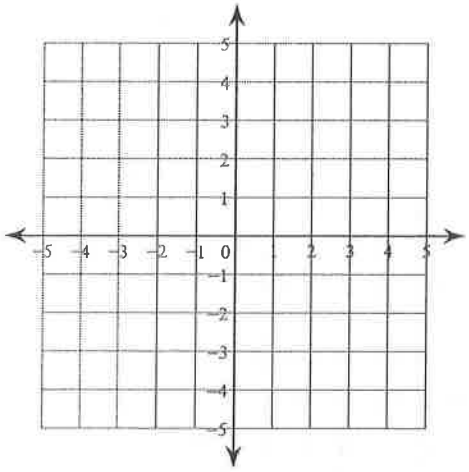
5) $x \leq -3$
$5x + 3y \geq -9$



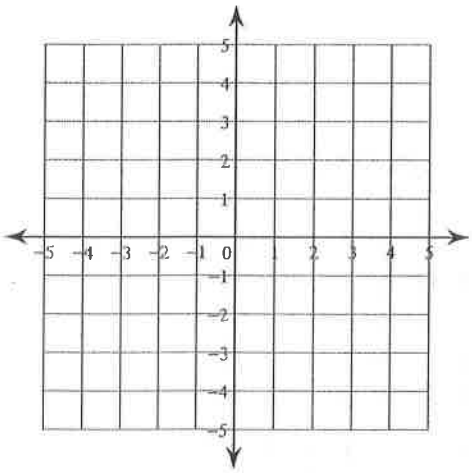
6) $4x - 3y < 9$
$x + 3y > 6$



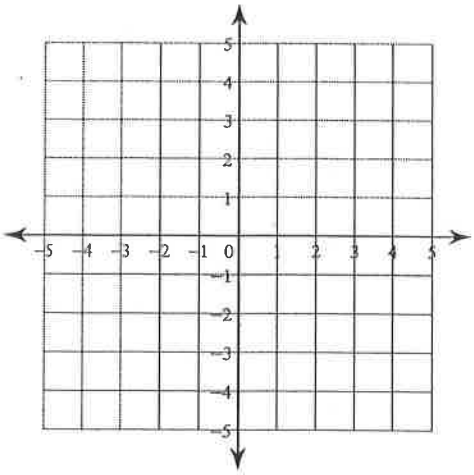
7) $x + y > 2$
$2x - y > 1$



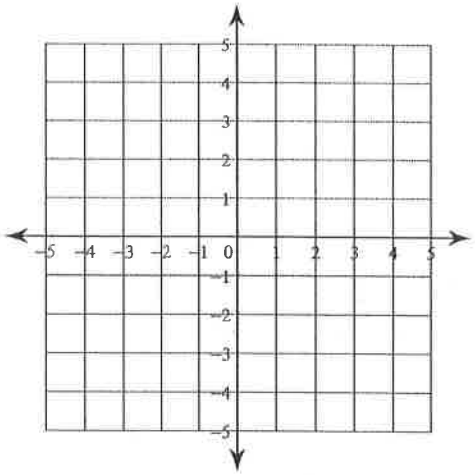
8) $x + y \geq 2$
$4x + y \geq -1$



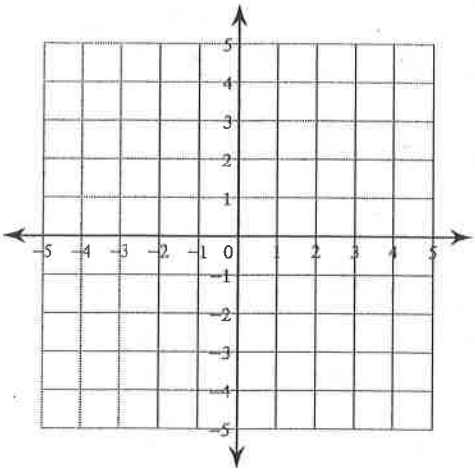
9) $4x + 3y > -6$
$x - 3y \leq -9$



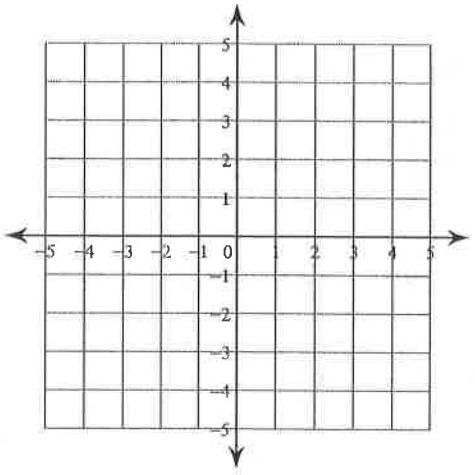
10) $y < -2$
$x + y \geq 1$



11) $3x + y \geq -3$
$x + 2y \leq 4$



12) $x + y \geq -3$
$x + y \leq 3$

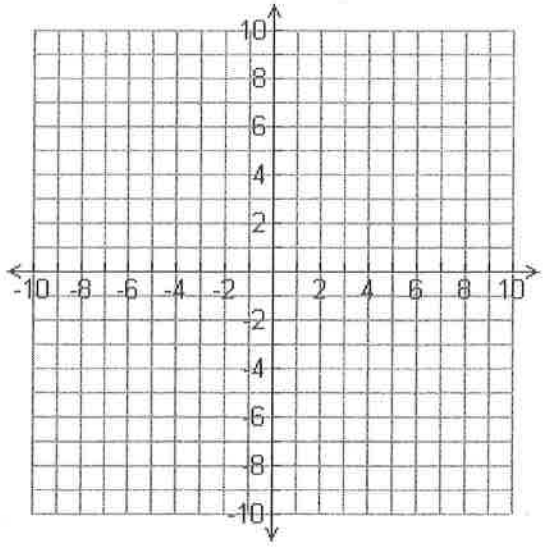


Critical thinking questions:

13) State one solution to the system
$y < 2x - 1$
$y \geq 10 - x$

14) Write a system of inequalities whose solution is the set of all points in quadrant I not including the axes.

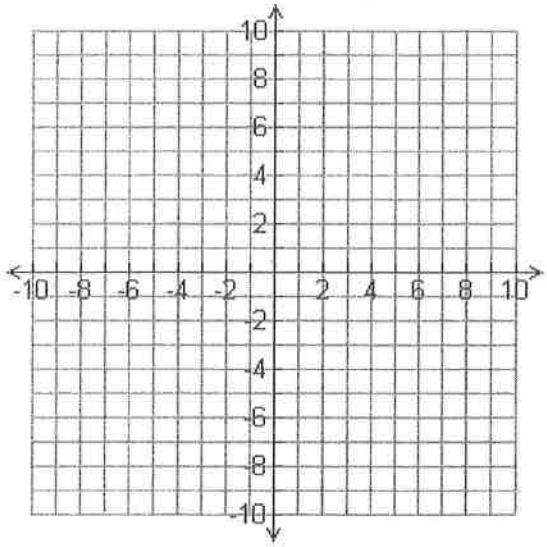
DRAW A GRAPH FOR THE FOLLOWING



$y \geq x^2 - 3$

$y < -x^2 + 5$

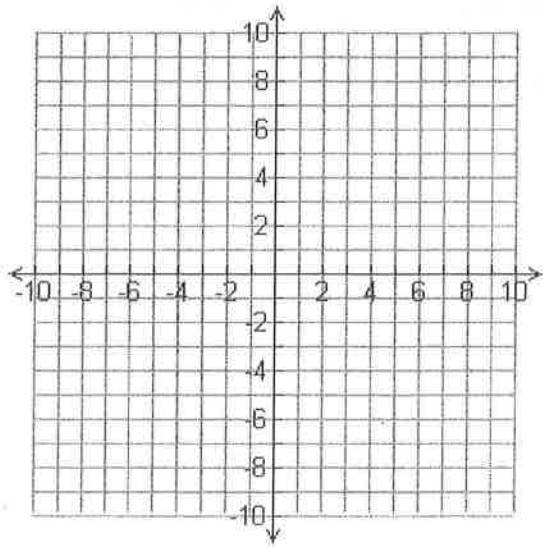
$x \geq -1$



$y < 4$

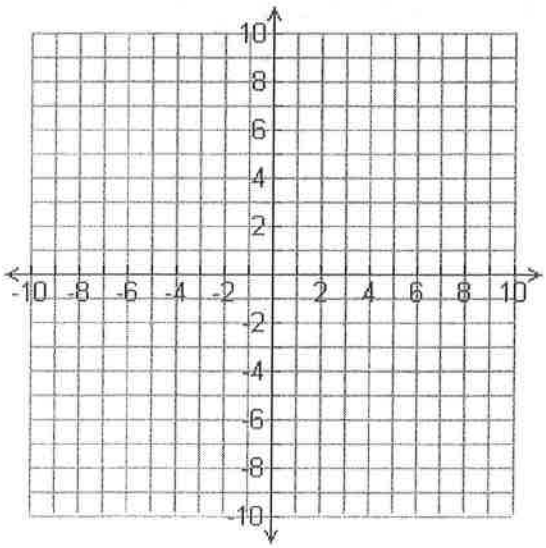
$y \geq (x-2)^2 - 5$

$x < 9$



$y < +(x-3)^2 - 8$

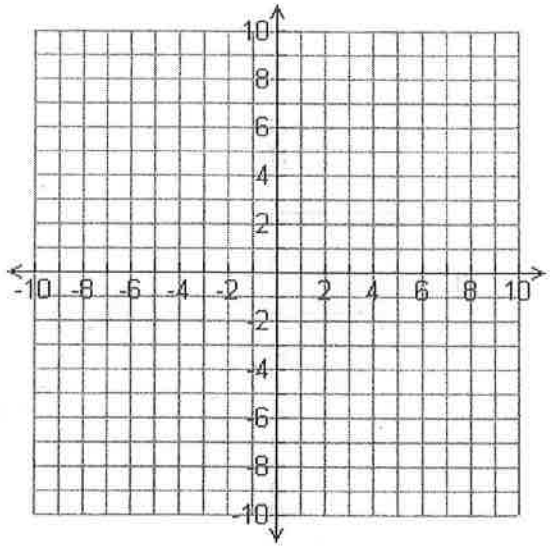
$y < -(x-6)^2 + 1$



$y \geq (x+5)^2 - 7$

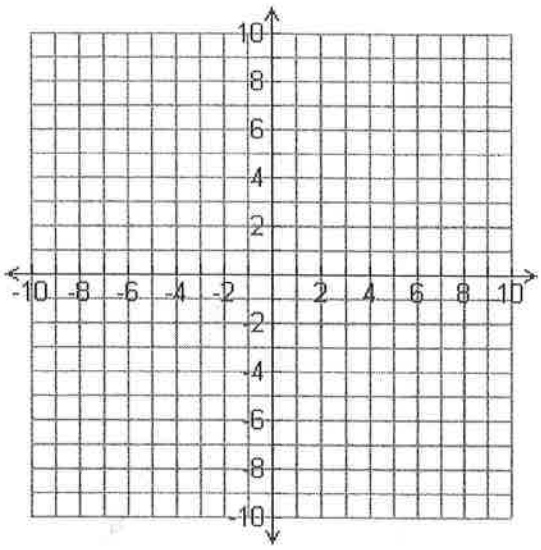
$y < -(x+4)^2 + 4$

$x \leq 0$



$y - 5 > -(x+2)^2$

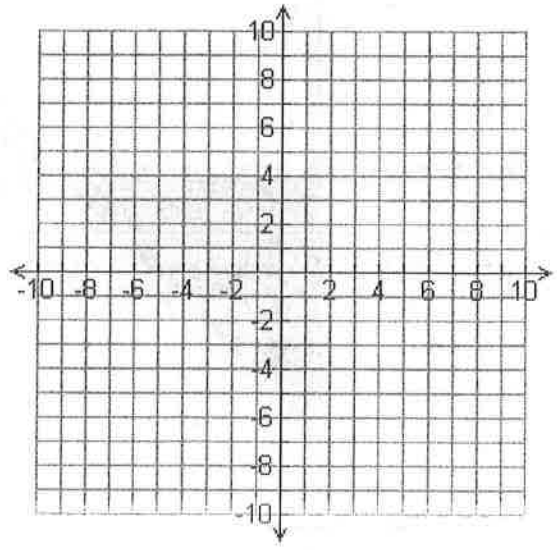
$y \leq 8$



$y < -(x-4)^2$

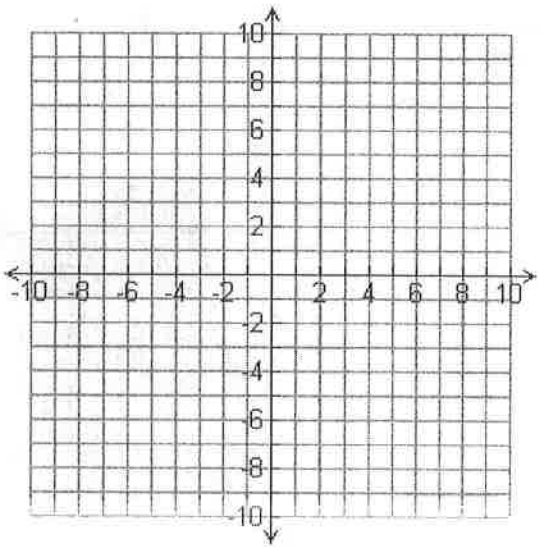
$x \geq 2$

$y \geq -8$



$y > x - 4$

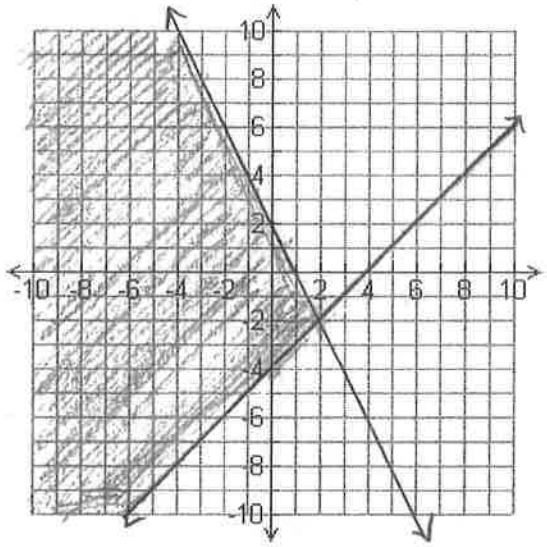
$y < (x-1)^2 + 3$

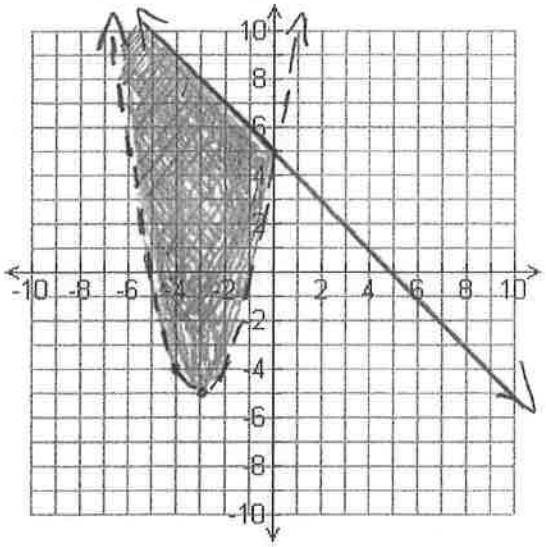


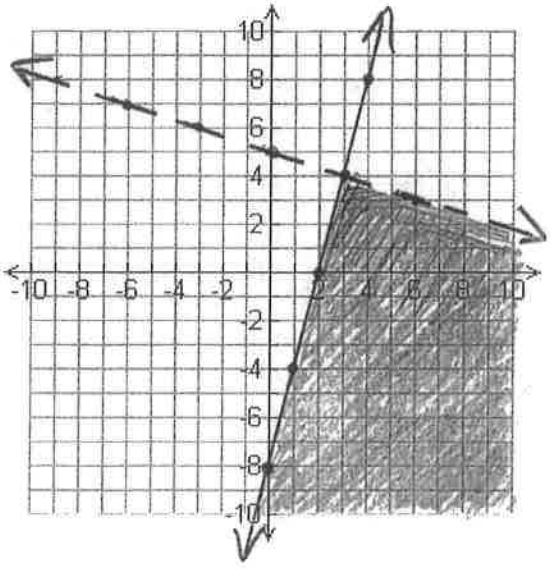
$y \geq x^2 - 8$

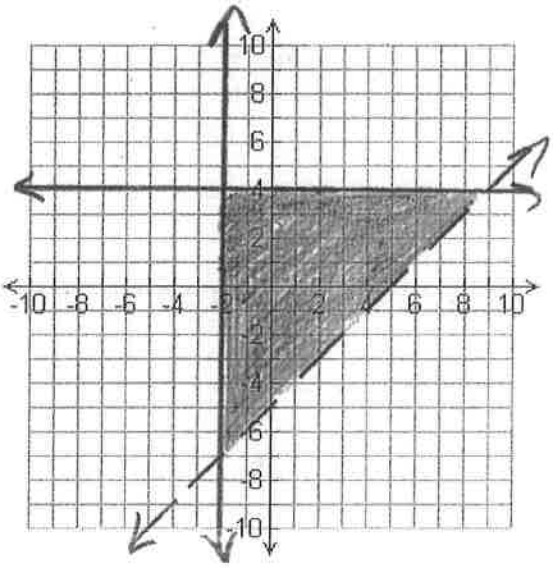
$y \leq x^2$

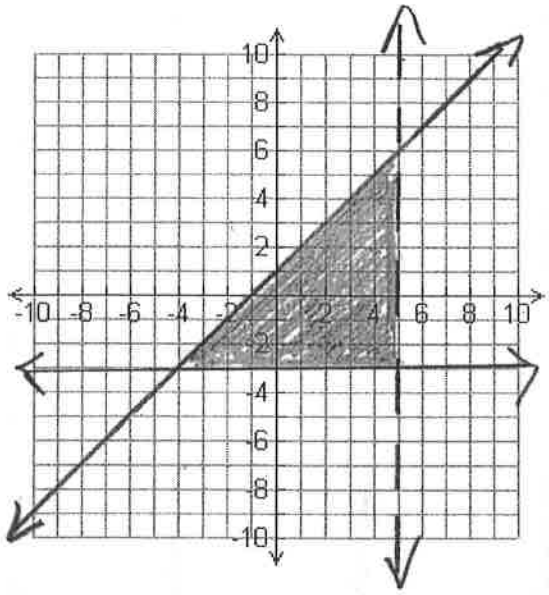
WRITE EQUATIONS FOR THE GRAPHS

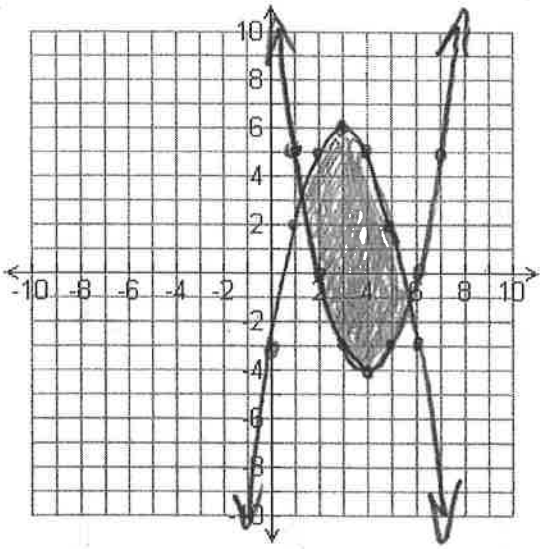


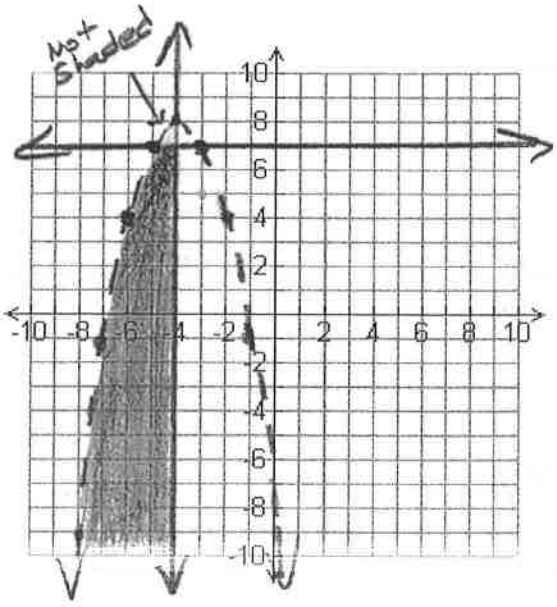


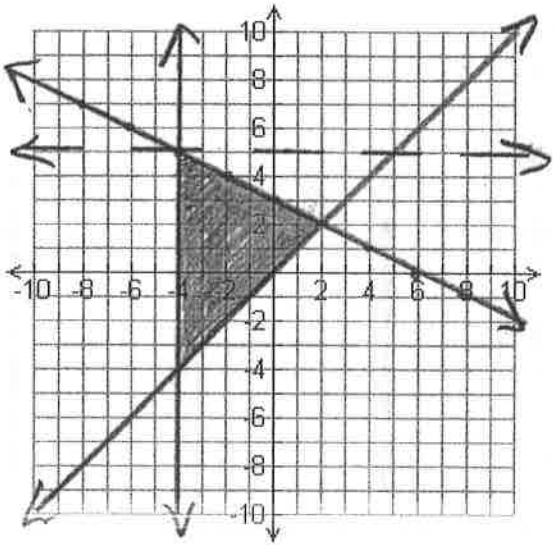









Not Shaded



Kuta Software - Infinite Algebra 1

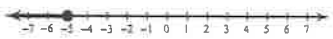
Name_____

Date_____ Period____

Graphing Inequalities

Draw a graph for each inequality.

1) $n \le -5$



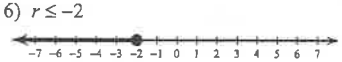
2) $n \le 5$

3) $x < 1$

4) $r > 2$

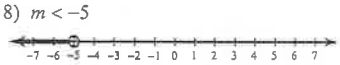
5) $n > 5$

6) $r \le -2$



7) $k \le -2$

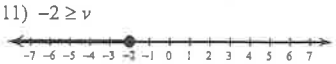
8) $m < -5$



9) $x \ge 2$

10) $-5 \ge v$

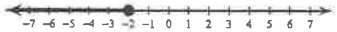
11) $-2 \ge v$



12) $x < 5$

P. 1

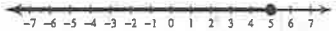
13) $-x \ge 2$



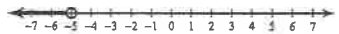
14) $5 \ge -a$

15) $x \le 2$

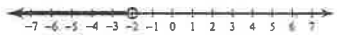
16) $x \le 5$



17) $-5 > b$

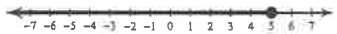


18) $-2 > b$



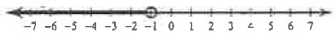
Write an inequality for each graph.

19)



$n \le 5$

20)



$p < -1$

21)

$r > -1$

22)

$a < -5$

23)

$p < 2$

24)

$n \le -5$

P. 2

Kuta Software - Infinite Algebra 1

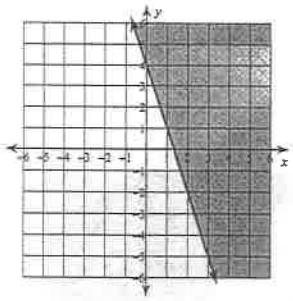
Name_____

Date_____ Period____

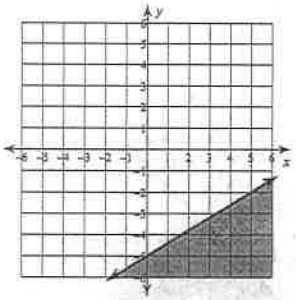
Graphing Linear Inequalities

Sketch the graph of each linear inequality.

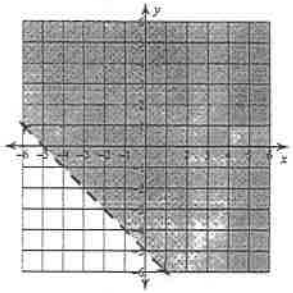
1) $y \geq -3x + 4$



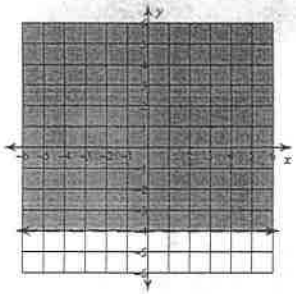
2) $y \leq \frac{3}{5}x - 5$



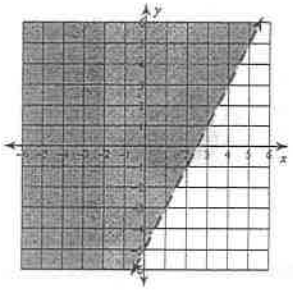
3) $y > -x - 5$



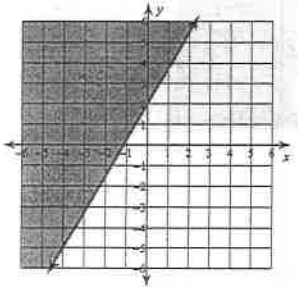
4) $y > -4$



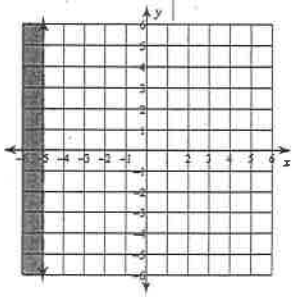
5) $y > 2x - 5$



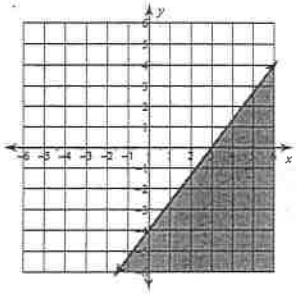
6) $y \geq \frac{7}{4}x + 2$



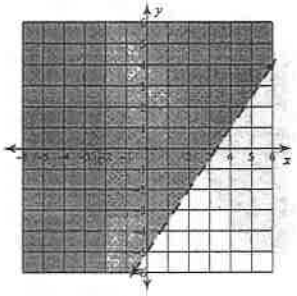
7) $x < -5$



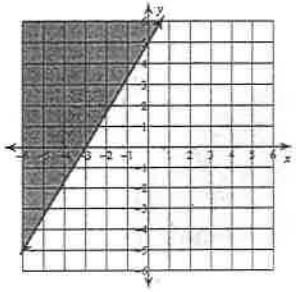
8) $y \leq \frac{4}{3}x - 4$



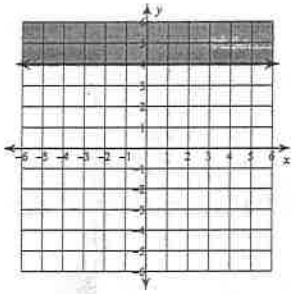
9) $3x - 2y < 10$



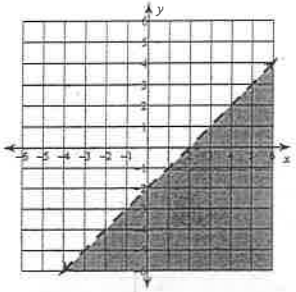
10) $5x - 3y \leq -15$



11) $y \geq 4$



12) $x - y > 2$



Kuta Software - Infinite Algebra 2

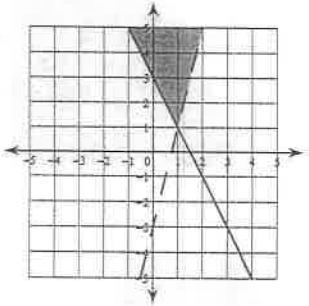
Name_____

Date_____ Period____

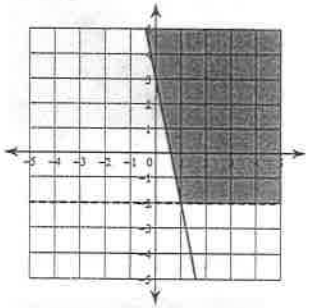
Systems of Inequalities

Sketch the solution to each system of inequalities.

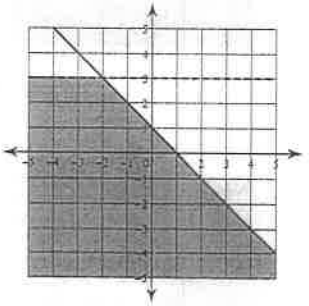
1) $y > 4x - 3$
$y \geq -2x + 3$



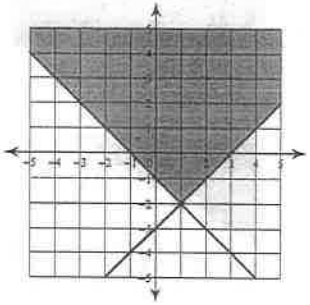
2) $y \geq -5x + 3$
$y > -2$



3) $y < 3$
$y \leq -x + 1$

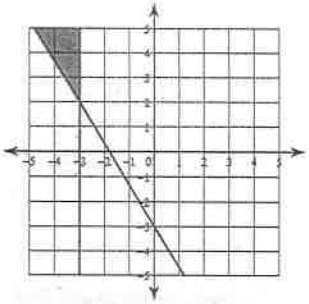


4) $y \geq x - 3$
$y \geq -x - 1$

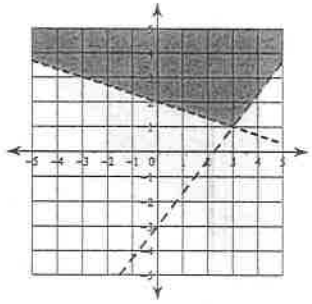


P. 5

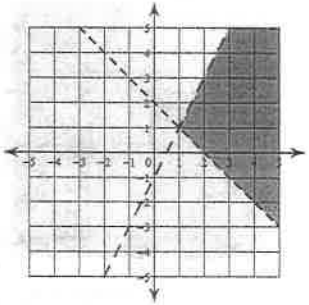
5) $x \leq -3$
$5x + 3y \geq -9$



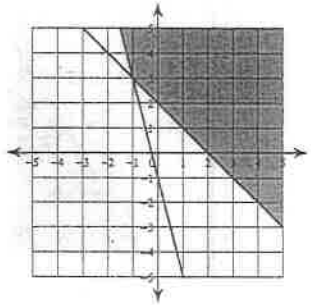
6) $4x - 3y < 9$
$x + 3y > 6$



7) $x + y > 2$
$2x - y > 1$

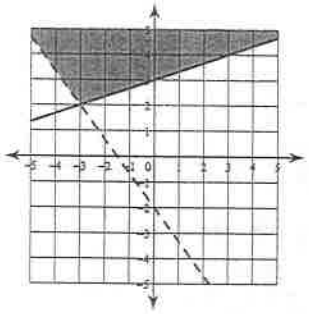


8) $x + y \geq 2$
$4x + y \geq -1$

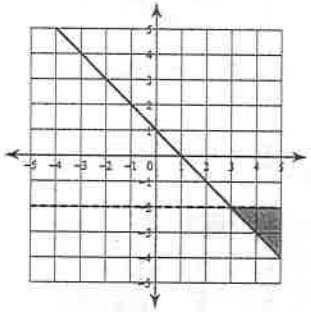


P. 6

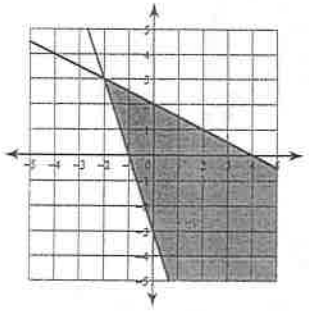
9) $4x + 3y > -6$
$x - 3y \leq -9$



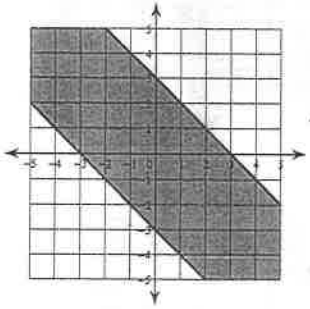
10) $y < -2$
$x + y \geq 1$



11) $3x + y \geq -3$
$x + 2y \leq 4$



12) $x + y \geq -3$
$x + y \leq 3$



Critical thinking questions:

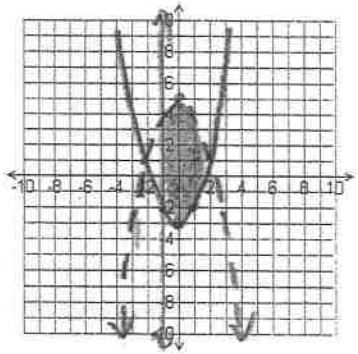
13) State one solution to the system
$y < 2x - 1$
$y \geq 10 - x$

Many solutions. Ex: (10, 10) or (5, 8)

14) Write a system of inequalities whose solution is the set of all points in quadrant I not including the axes.

$x > 0,\ y > 0$

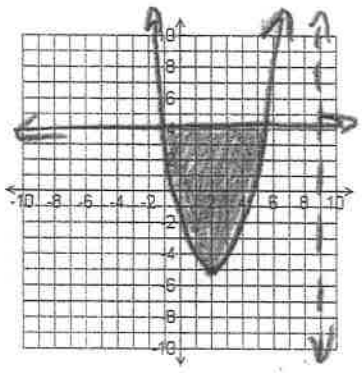
DRAW A GRAPH FOR THE FOLLOWING



$y \geq x^2 - 3$

$y < -x^2 + 5$

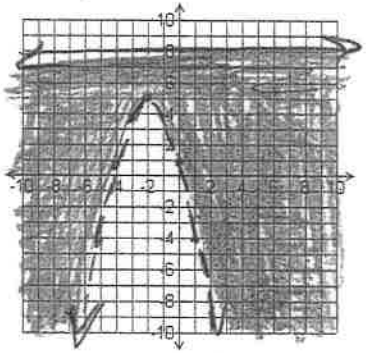
$x \geq -1$



$y < 4$

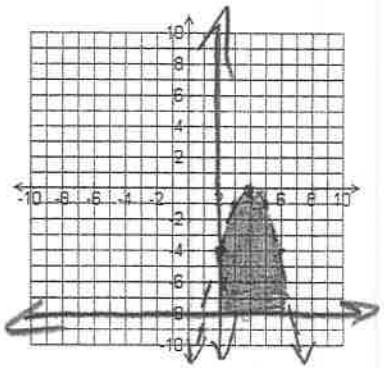
$y \geq (x-2)^2 - 5$

$x < 9$



$y - 5 > -(x+2)^2$

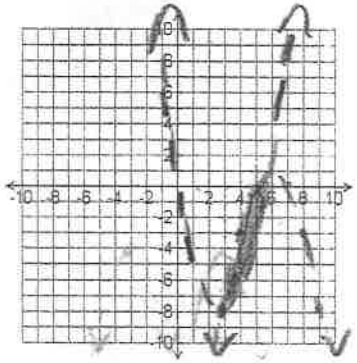
$y \leq 8$



$y < -(x-4)^2$

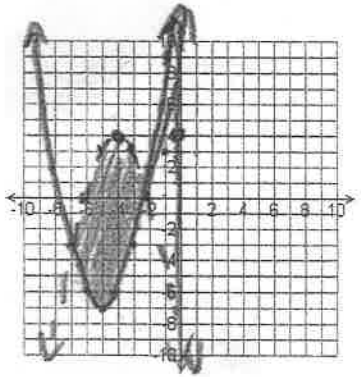
$x \geq 2$

$y \geq -8$



$y < +(x-3)^2 - 8$

$y < -(x-6)^2 + 1$

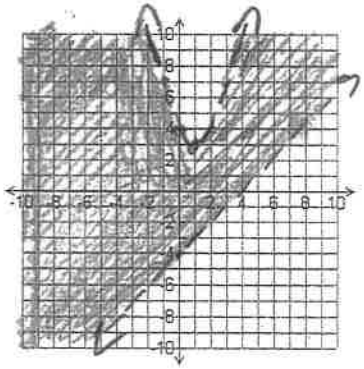


$y \geq (x+5)^2 - 7$

$y < -x^2 + 4$

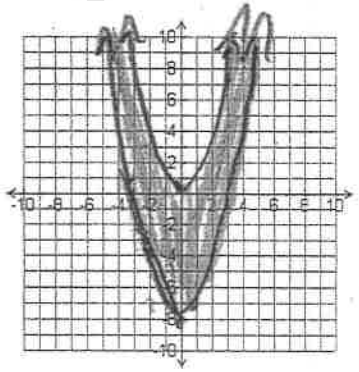
$x \leq 0$

$y < -(x+4)^2 + 4$



$y > x - 4$

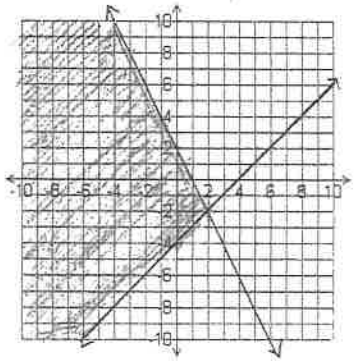
$y < (x-1)^2 + 3$



$y \geq x^2 - 8$

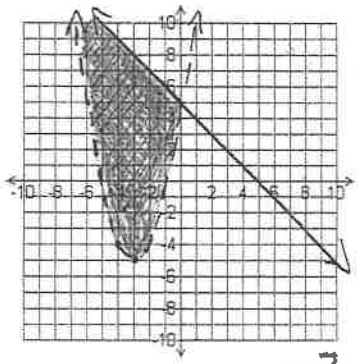
$y \leq x^2$

WRITE EQUATIONS FOR THE GRAPHS



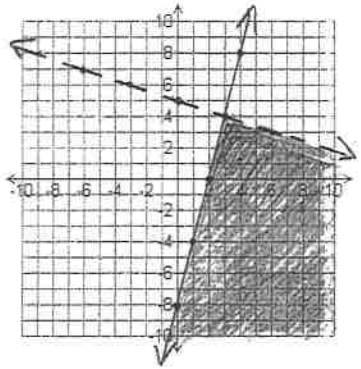
$y \geq x - 4$

$y < -2x + 2$



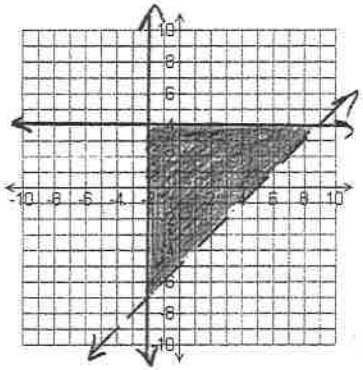
$y > (x+3)^2 - 5$

$y \leq -x + 5$



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

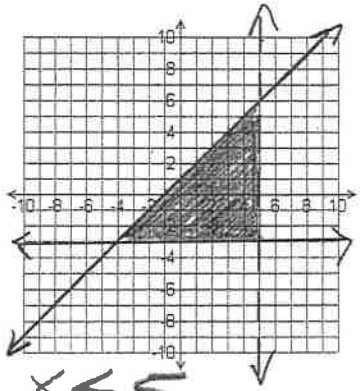
$y \leq 4x - 8$



$y \leq 4$

$x \geq -2$

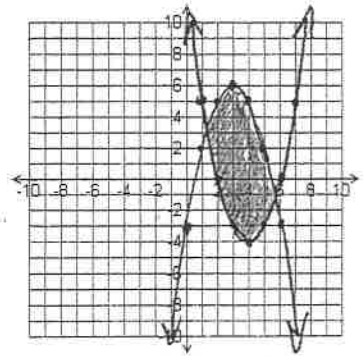
$y > x - 5$



$x < 5$

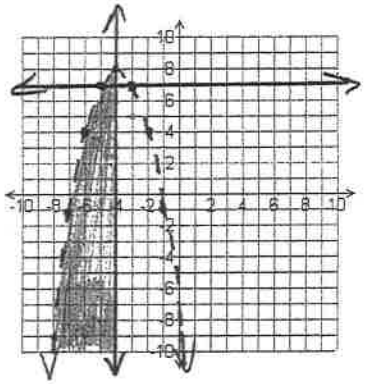
$y \geq -3$

$y \leq x + 1$



$y < -(x-3)^2 + 6$

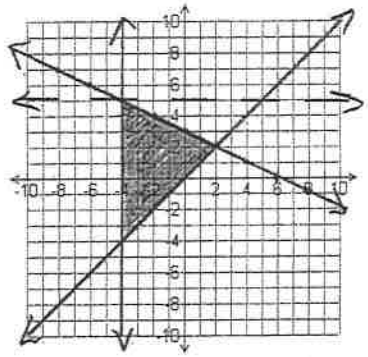
$y > (x-4)^2 - 4$



$y \leq 7$

$x \leq -4$

$y < (x+4)^2 + 8$



$y < 5$

$x \geq -4$

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

$y \geq x$