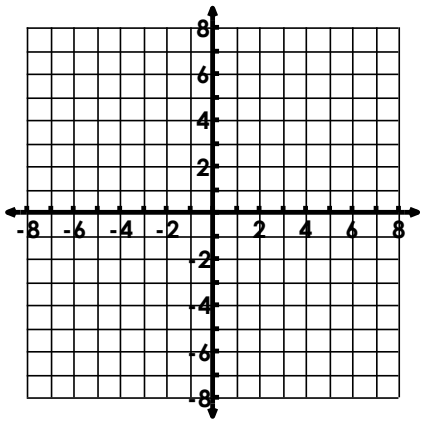
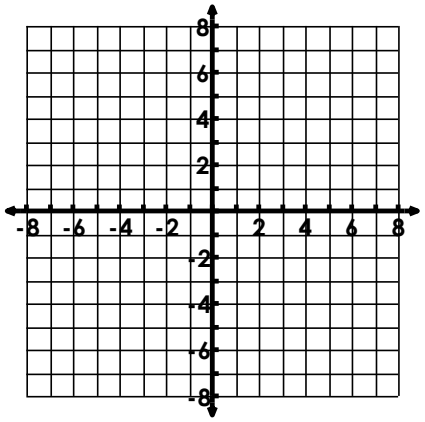
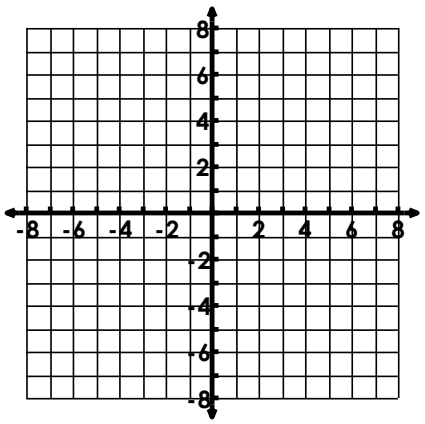
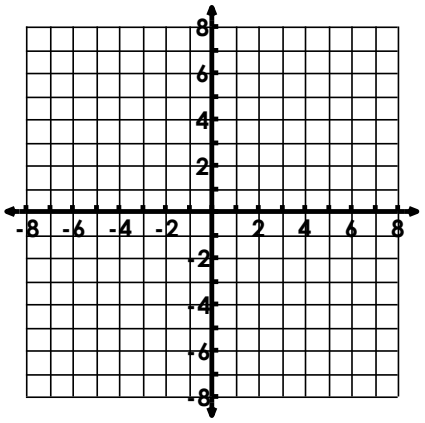
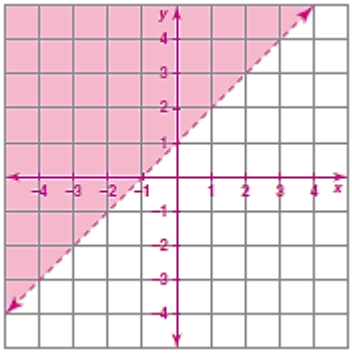
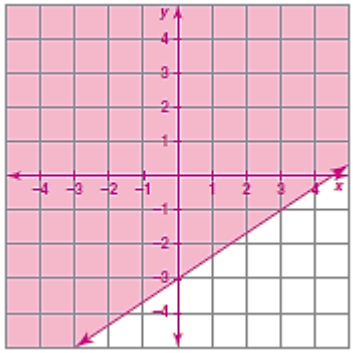
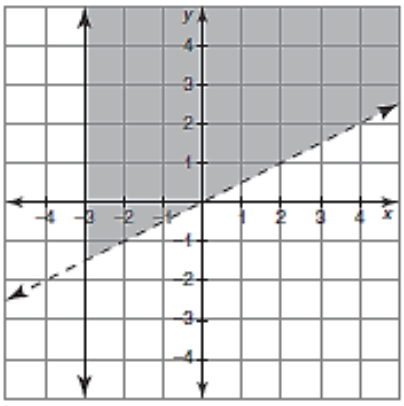
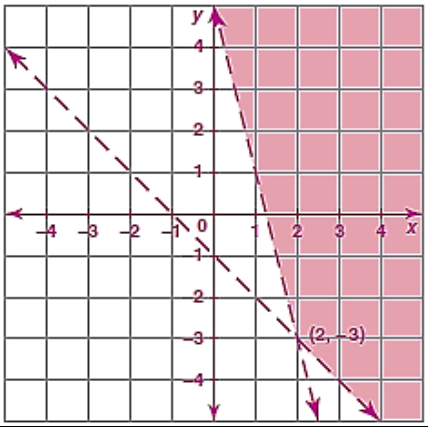
Algebra 1 Name:_____

Unit 8 – Systems of Inequalities Date:_____ Block:_____

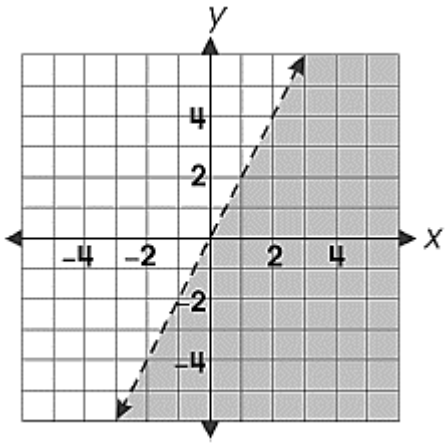
Systems of Inequalities Unit Review

What you need to know & be able to do	**Things to remember**	**Examples**	
1. Graph a linear inequality	Make sure equation is solved for y Graph the line Determine if dashed or solid Determine whether to shade below or above the line *Golden Rule of Inequalities can apply here.	a. Graph $y > -\frac{1}{5}x + 1$ 	b. $7x - 5y \geq -20$ 
2. Solve a system of linear inequalities by **graphing**.	Determine if you have a solid or dashed line Then determine whether to shade above or below. Find the region where the shading overlapped.	a. Solve the system. Label the different regions as solution or not a solution. $y < -3x + 2$ $y \geq x - 1$ 	b. Solve the system. Label the different regions as solution or not a solution. $x + y > 4$ $y > x - 1$ 

3. Real World with Systems of Inequalities		a. Write a system to describe: *The maximum capacity for an elevator is 15 people and 3000 pounds. It is estimated that adults weight 200 pounds and children under 16 weight 100 pounds.*	b. Write a system to describe: *Megan is selling tickets to North Polk's production of Footloose. North Polk's theater holds at most 700 people. Children's tickets are $6.00 and adult tickets are $10.00. She hopes to sell at least $500 worth of tickets.*
4. Naming Linear Inequalities	Identify: *Slope *Y-intercept *Type of Line *Shading	a. Name the inequality. 	b. Name the inequality. 
5. Naming Linear Systems	Identify: *Slope *Y-intercept *Type of Line *Shading	a. Name the system of ineqalities. 	b. Name the system of ineqalities. 

Multiple Choice Practice

6. The graph of $y < 2x$ is shown. Which ordered pair is a solution to this inequality?



(a) (-2, 4) (b) (1, 2)

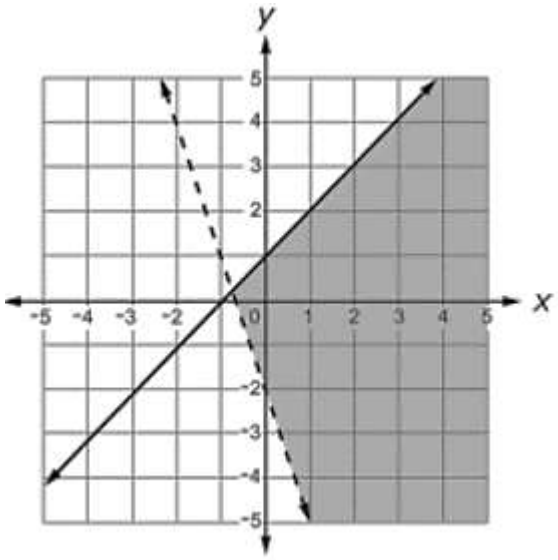
(c) (0, -2) (d) (1, 4)

7. Which point is a solution of the system: $\begin{aligned} 2x + y &\geq 3 \\ y &\geq -2x + 1 \end{aligned}$?

(a) (0, 0) (b) (1, 0)

(c) (0, 1) (d) (1, 1)

8. Which system of inequalities best describes the graph?



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

(b) $y < -3x - 2$
$y \geq x + 1$

(c) $y > -3x - 2$
$y \leq x + 1$

(d) $y < -3x - 2$
$y \leq x + 1$

9. 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. Which system of inequalities correctly models this situation?

(a) $x + y \leq 40$
$12x + 10y \geq 400$

(b) $x + y \leq 40$
$12x + 10y \leq 400$

(c) $x + y \geq 40$
$12x + 10y \leq 400$

(d) $x + y \geq 40$
$12x + 10y \geq 400$