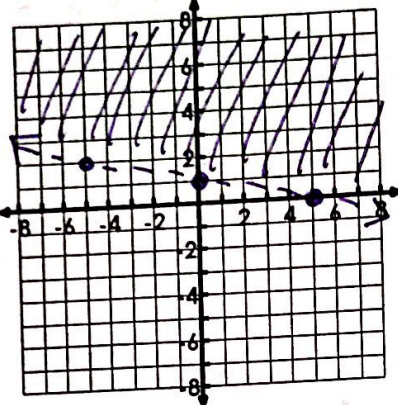
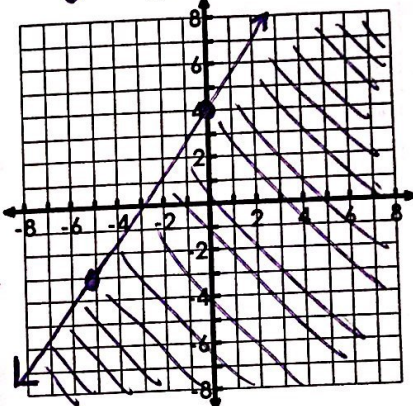
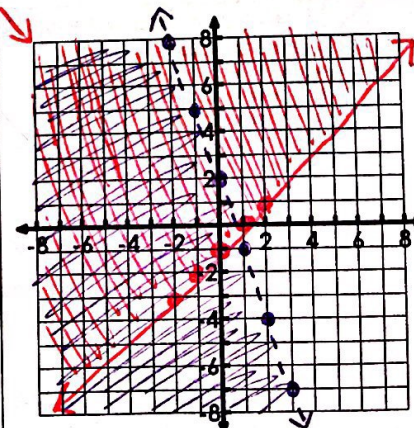
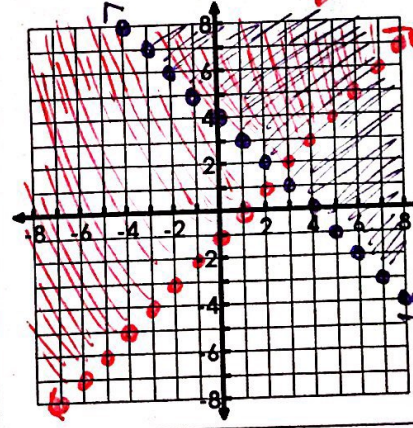
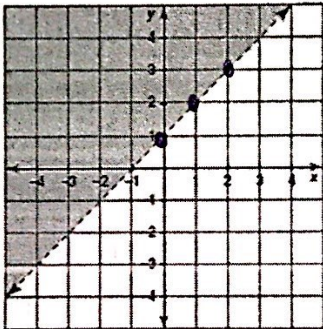
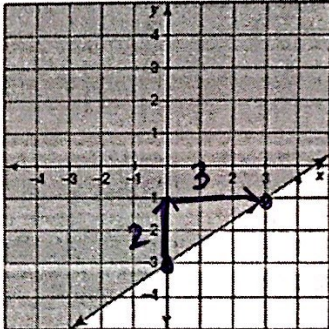
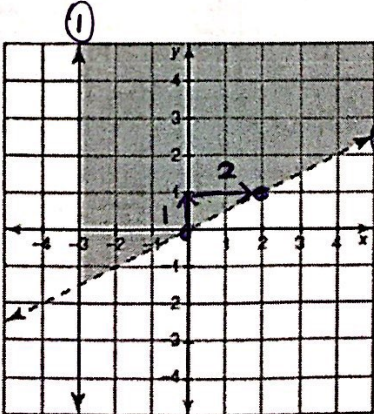
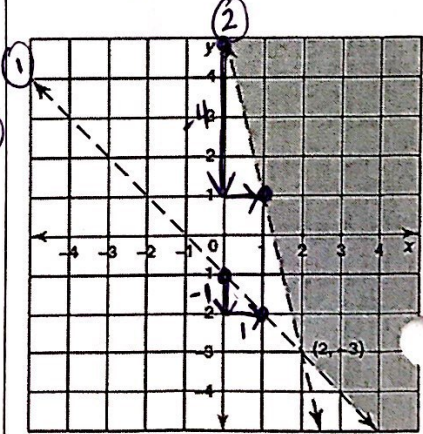


Systems of Inequalities Unit Review

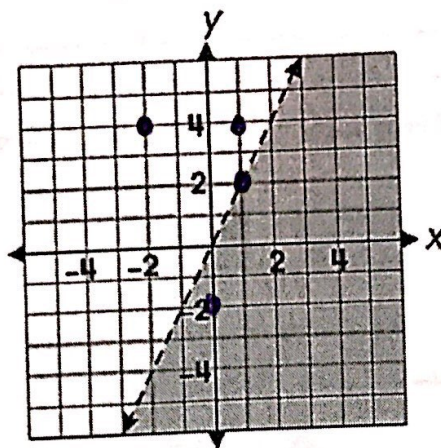
What you need to know & be able to do	Things to remember	Examples	
1. Graph a linear inequality	<p>Make sure equation is solved for y</p> <p>Graph the line</p> <p>Determine if dashed or solid</p> <p>Determine whether to shade below or above the line</p> <p>*Golden Rule of Inequalities can apply here.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

<p>3. Real World with Systems of Inequalities</p>		<p>a. Write a system to describe: The maximum capacity for an elevator is <u>15 people</u> and <u>3000 pounds</u>. It is estimated that adults weight <u>200 pounds</u> and children under 16 weight <u>100 pounds</u>.</p> $200x + 100y \leq 3000$ $x + y \leq 15$	<p>b. Write a system to describe: Megan is selling tickets to Allatoona's production of Footloose. Allatoona's theater holds at <u>most 700 people</u>. Children's tickets are <u>\$6.00</u> and adult tickets are <u>\$10.00</u>. She hopes to sell at <u>least \$500 worth of tickets</u>.</p> $x + y \leq 700$ $6x + 10y \geq 500$
<p>4. Naming Linear Inequalities</p>	<p>Identify: *Slope *Y-intercept *Type of Line *Shading</p>	<p>a. Name the inequality.</p> $y > x + 1$ 	<p>b. Name the inequality.</p> $y \geq \frac{2}{3}x - 3$ 
<p>5. Naming Linear Systems</p>	<p>Identify: *Slope *Y-intercept *Type of Line *Shading</p>	<p>a. Name the system of inequalities.</p> $1: x \geq 3$ $2: y > \frac{1}{2}x$ 	<p>b. Name the system of inequalities.</p> $1: y > -x - 1$ $2: y > -4x + 1$ 

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:
 $2x + y \geq 3$
 $y \geq -2x + 1$?

- ~~(a)~~ (0, 0)
~~(c)~~ (0, 1)

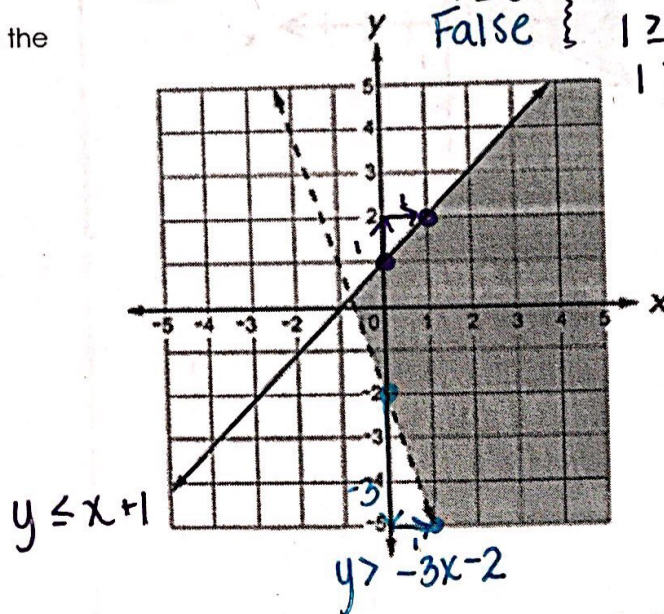
(b) (1, 0)
 (d) (1, 1)

$2(0) + (0) \geq 3$
 $2 \geq 3$
 False
 $2(0) + 1 \geq 3$
 $1 \geq 3$
 False

$2(1) + (0) \geq 3$
 $2 \geq 3$
 False
 $2(1) + (1) \geq 3$
 $3 \geq 3$
 True
 $1 \geq -2(1) + 1$
 $1 \geq -1$
 True

8. Which system of inequalities best describes the graph?

- (a) $y > -3x - 2$ (b) $y < -3x - 2$
 $y \geq x + 1$ $y \geq x + 1$
 (c) $y > -3x - 2$ (d) $y < -3x - 2$
 $y \leq x + 1$ $y \leq x + 1$



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