Alg 1A

Taylor & Minns

Weeks 5, 6

Apr 27 – May 8

Student's Name:_____

Teacher's Name:_____

LEON HIGH SCHOOL

ALGEBRA 1A

REVIEW PACKET

CONTACT INFORMATION

Mr. Darrin Minns

Remind:	**Email:**
Text "@minns1a" to 81010 or go to remind.com/join to receive email alerts	minnsd2@leonschools.net

Khan Academy:
Go to khanacademy.org and sign up as a "Learner" using class code: TWAN3MRP

Mrs. Martina Taylor

Remind:	**Email:**
Text the appropriate code to 81010 or go to remind.com/join to receive email alerts Per 1: @1leonalg1a Per 2: @2leonalg1a Per 3: @3leonalg1a Per 4: @4leonalg1a	taylorm2@leonschools.net

Khan Academy:
You already have a Khan Academy account. DO NOT create a new one. If you are having login issues, contact Mrs. Taylor to help you reset your password.

LEON HIGH SCHOOL

ALGEBRA 1A

4/27 - 5/8: WEEKS 5-6

The following are the plans for the next two weeks of learning. The day by day schedule is here as a guide for you to maximize your learning experience. A quiz covering this material will be taken on Friday 5/8. All work will either be sent to your teacher electronically or returned to the school. If needed, your teacher will send out more information regarding watching videos on Algebra Nation and Khan Academy or receiving a game code for Quizizz. As always, contact your instructor through Remind or email if you have any additional questions.

Week 5

	Notes if you DO have Internet	**Notes if you DON'T have internet**	**Problem Set to Complete**
Day 1 4/27	Khan Academy Video Systems of Equation w/Elimination (and manipulation) https://youtu.be/wYrxKGt_bLg	Day 1: Solving Systems by Elimination	Take notes with video or on blank slide set in this packet
Day 2 4/28	Same as Day 1	Same as Day 1	Solving Systems by Elimination (1-8)
Day 3 4/29	Same as Day 1	Same as Day 1	Solving Systems by Elimination (9-16)
Day 4 4/30	Review all Notes	Review all Notes	Solving Systems Review (1-13 odd)
Day 5 5/1	Review all Notes	Review all Notes	Solving Systems Review (2-14 even)

Week 6

	Notes if you DO have Internet	Notes if you DON'T have internet	Problem Set to Complete
Day 6 5/4	Khan Academy Video Intro to Graphing Systems of Inequalities https://youtu.be/CA4S7S-3Lg4	Graphic Organizer: Graphing Linear Inequalities Graphing Systems of Linear Inequalities	
Day 7 5/5	Same as Day 6	Same as Day 6	Graphing Linear Inequalities WS (1-12)
Day 8 5/6	Same as Day 6	Same as Day 6	Graphing Systems of Linear Inequalities WS (1-6)
Day 9 5/7	Same as Day 6	Same as Day 6	Graphing Systems of Linear Inequalities WS (7-12)
Day 10 5/8	Same as Day 6	Same as Day 6	Quizizz: Elimination & Systems of Inequalities **Have internet?** Get the game code from your teacher & complete the activity online **Don't have internet?** Complete the printed Quizizz activity in this packet

Day 1

Solving Systems by Elimination

Sometimes adding two equations will eliminate one variable – this is called elimination.

Ex 1

$$\begin{aligned} -3x+4y&=12 \\ 3x-6y&=18 \end{aligned}$$

Ex 2

$$\begin{aligned} 4x+2y&=28 \\ 4x-3y&=18 \end{aligned}$$

Ex 3

$$\begin{aligned} 2x+y&=23 \\ 3x+2y&=37 \end{aligned}$$

Ex 4

$$\begin{aligned} 3x-5y&=-29\\ 2x-10y&=-42 \end{aligned}$$

Ex 5

$$\begin{aligned} 4x+3y&=8\\ 3x-5y&=-23 \end{aligned}$$

Solving Systems by Elimination

Sometimes adding two equations will eliminate one variable – this is called **elimination**.

Ex 1

$$-3x+4y=12$$
$$+\ 3x-6y=18$$

$-2y = 30$

$\frac{-2y}{-2} = \frac{30}{-2}$

$y = -15$

$-3x + 4(-15) = 12$

$-3x - 60 = 12$

$+60 \quad +60$

$\frac{-3x}{-3} = \frac{72}{-3}$

$x = -24$

$(-24, -15)$

Steps

1. Line up like terms
2. Force coefficients of one variable to be opposites
   * May need to use multiplication
3. Add ← (elimination step)
4. Solve for remaining variable
5. Plug value in to solve for other variable
6. Check ✓

Ex 2

$$4x+2y=28$$
$$-1(4x-3y=18)$$

4x and 4x could become opposites if one is multiplied by −1

$4x + 2y = 28$

$(+) -4x + 3y = -18$

$\frac{5y}{5} = \frac{10}{5}$

$y = 2$

$4x + 2(2) = 28$

$4x + 4 = 28$

$-4 \quad -4$

$\frac{4x}{4} = \frac{24}{4}$

$x = 6$

$(6, 2)$

Ex 3

$$-2(2x+1y=23)$$
$$3x+2y=37$$

1y and 2y could become opposites if 1y is multiplied by −2

$-4x - 2y = -46$

$(+)\ 3x + 2y = 37$

$\frac{-1x}{-1} = \frac{-9}{-1}$

$x = 9$

$2(9) + y = 23$

$18 + y = 23$

$-18 \quad -18$

$y = 5$

$(9, 5)$

Ex 4

$-2(3x-5y=-29)$ → $-6x+10y=58$

$2x-10y=-42$ → $(+)\ 2x-10y=-42$

$-4x=16$

$\frac{-4x}{-4}=\frac{16}{-4}$

$x=-4$

$2(-4)-10y=-42$

$-8-10y=-42$

$+8\quad +8$

$-10y=-34$

$\frac{-10y}{-10}=\frac{-34}{-10}$

$y=\frac{34\div 2}{10\div 2}$

$y=\frac{17}{5}$

$\left(-4,\frac{17}{5}\right)$

$-5y$ and $-10y$

Could become opposites if $-5y$ is multiplied by -2

Ex 5

$-3(4x+3y=8)$ → $-12x-9y=-24$

$4(3x-5y=-23)$ → $+12x-20y=-92$

$-29y=-116$

$\frac{-29y}{-29}=\frac{-116}{-29}$

$y=4$

$4x+3(4)=8$

$4x+12=8$

$-12\quad -12$

$\frac{4x}{4}=\frac{-4}{4}$

$x=-1$

$(-1,4)$

* Lots of options

$4x$ and $3x$

Could become opposites if $4x$ is multiplied by -3 and $3x$ is multiplied by 4

Algebra 1A Name_____

Solving Systems by Elimination

Teacher_____

Solve each system by elimination.

1) $-10x + 8y = -20$
$7x + 16y = 14$

2) $-7x + 4y = -29$
$3x - 8y = 25$

3) $-2x + 2y = 6$
$-x + 12y = 14$

4) $6x - y = 20$
$4x + 3y = 6$

5) $-3x + 8y = 0$
$6x - 4y = 0$

6) $x - 12y = 27$
$-6x + 4y = -26$

7) $x - 2y = -24$
$-9x - 8y = -18$

8) $4x + 5y = 6$
$x + 2y = 0$

9) $-2x - 3y = -1$
$8x - y = -9$

10) $-3x - 8y = 14$
$-12x + 6y = 18$

11) $-12x + 2y = 2$
$-6x + 5y = 5$

12) $9x + 8y = 13$
$-x - 2y = -7$

13) $8x + 2y = -18$
$-2x - 4y = 8$

14) $9x - 9y = 0$
$-2x + 18y = -16$

15) $3x + 16y = 16$
$-2x + 8y = 8$

16) $18x + 6y = 18$
$-9x + y = 3$

Algebra 1A Name_____

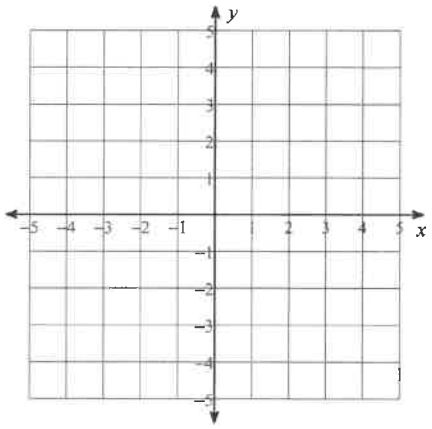
Solving Systems Review

Teacher_____

Solve each system by graphing.

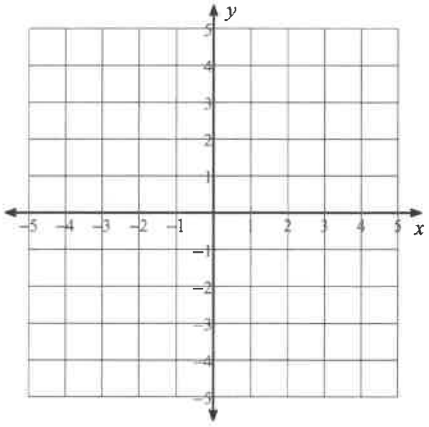
1) $y = -\frac{1}{4}x - 2$

$y = -x + 1$



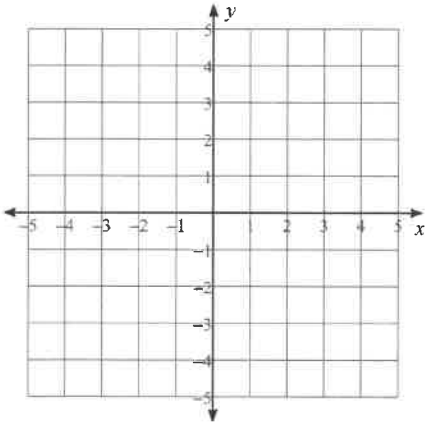
2) $y = \frac{3}{2}x + 2$

$y = \frac{1}{2}x - 2$



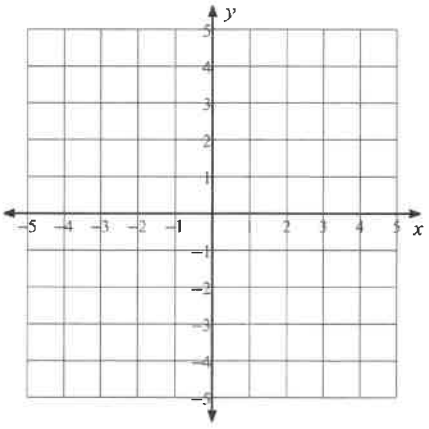
3) $y = -\frac{5}{4}x - 4$

$y = 1$



4) $y = -\frac{1}{3}x - 4$

$y = \frac{7}{3}x + 4$



Solve each system by substitution.

5) $8x - 6y = -16$

$y = 4x - 8$

6) $5x - 3y = -10$

$y = 3x + 6$

7) $y = 4x - 21$
$-4x - 5y = -15$

8) $-5x - 3y = 4$
$y = -3x + 4$

Solve each system by elimination.

9) $-3x + 10y = -11$
$3x + y = 22$

10) $-3x - 7y = -8$
$-7x + 7y = 28$

11) $-10x - 9y = 29$
$9x - 18y = 0$

12) $-7x - 12y = -16$
$6x + 3y = -30$

13) Darryl and Jill each improved their yards by planting rose bushes and shrubs. They bought their supplies from the same store. Darryl spent \$77 on 5 rose bushes and 4 shrubs. Jill spent \$61 on 5 rose bushes and 2 shrubs. What is the cost of one rose bush and the cost of one shrub?

14) Jaidee and Shanice each improved their yards by planting daylilies and ivy. They bought their supplies from the same store. Jaidee spent \$39 on 5 daylilies and 2 pots of ivy. Shanice spent \$150 on 10 daylilies and 10 pots of ivy. What is the cost of one daylily and the cost of one pot of ivy?

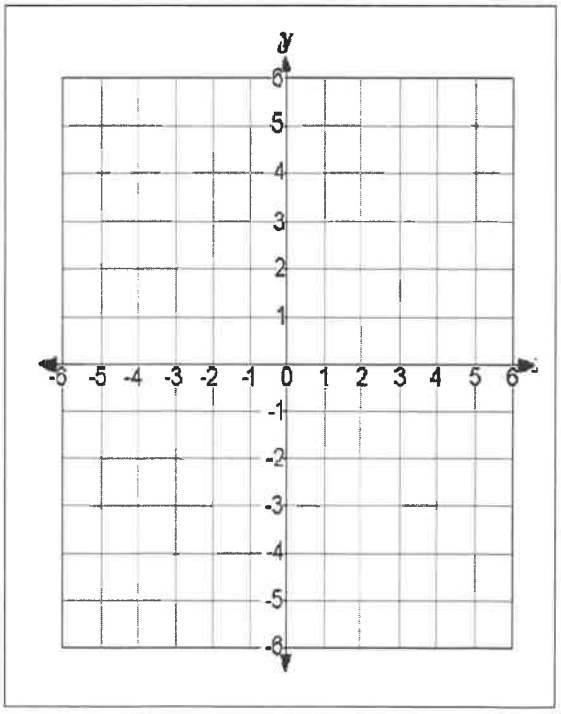
Graphing Linear Inequalities

1.
2.
3.
4.

Solid Line

Example: Graph $2x - 3y < 12$

Dashed Line



Shade Above

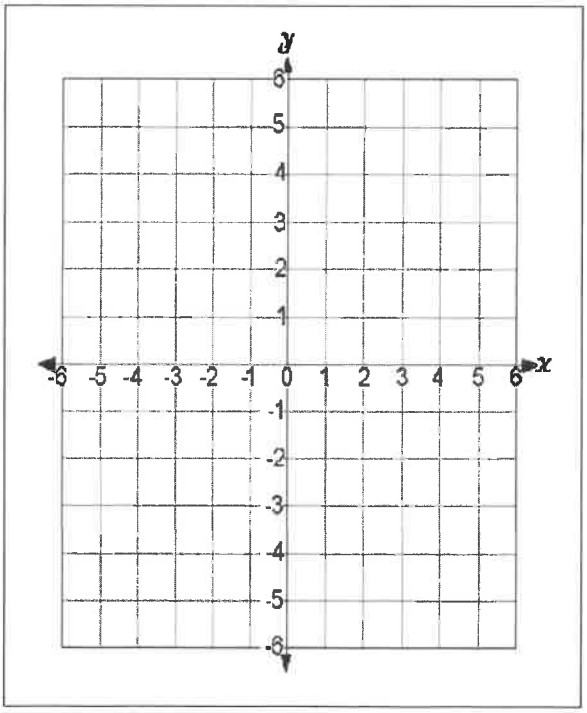
Shade Below

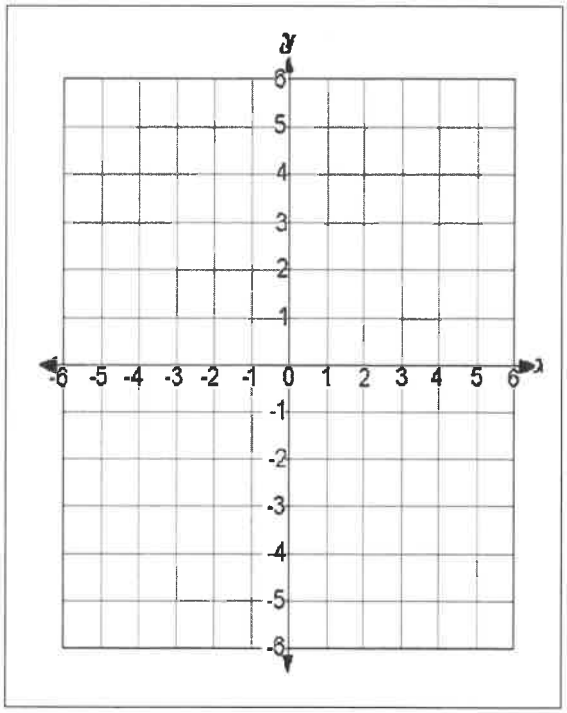
Graphing Systems of Linear Inequalities

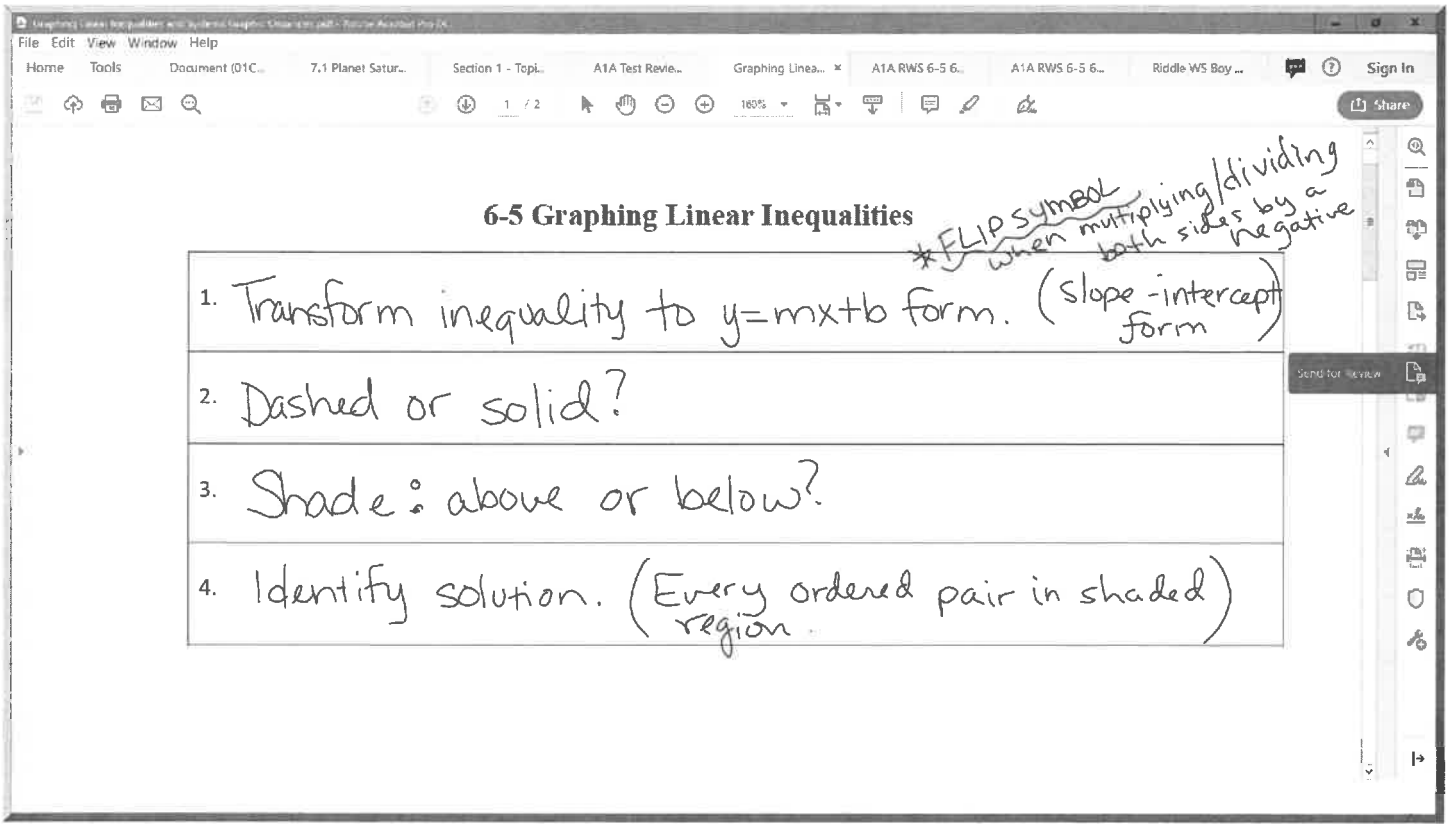
1.
2.
3.
4.

Example: $y > \frac{2}{3}x - 3$ $y \leq -\frac{3}{4}x + 4$

Example: $x - 2y < -10$ $6y < 3x - 12$







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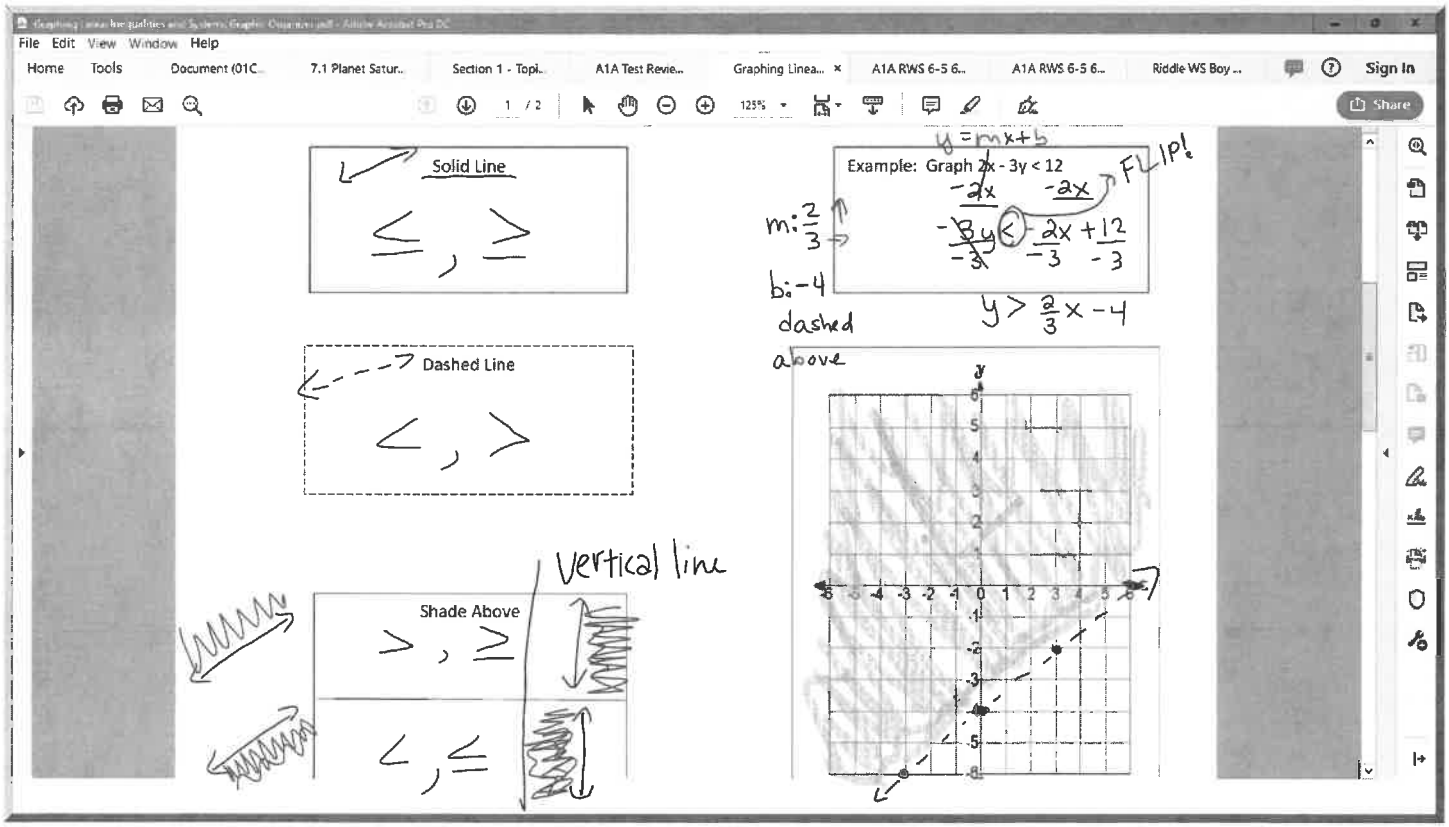

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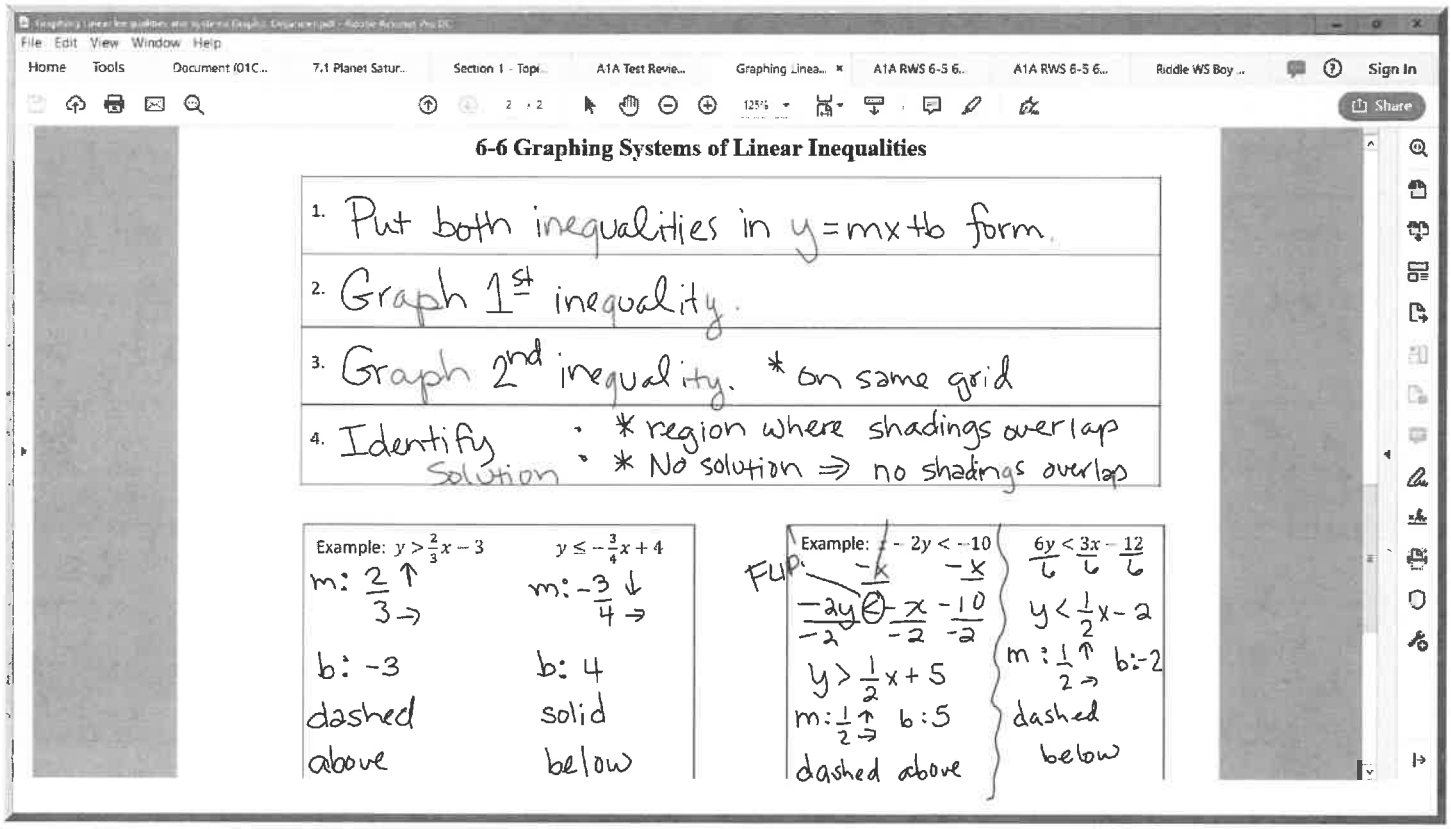


6-6 Graphing Systems of Linear Inequalities

1. Put both inequalities in $y = mx + b$ form.
2. Graph 1st inequality.
3. Graph 2nd inequality. * on same grid
4. Identify Solution
   - * region where shadings overlap
   - * No solution ⇒ no shadings overlap

Example: $y > \frac{2}{3}x - 3$

m: $\frac{2}{3}$ ↑ →

b: -3

dashed

above

$y \leq -\frac{3}{4}x + 4$

m: $-\frac{3}{4}$ ↓ →

b: 4

solid

below

Example: $x - 2y < -10$

Flip: $-x \quad -x$

$\frac{-2y}{-2} < \frac{-x}{-2} - \frac{10}{-2}$

$y > \frac{1}{2}x + 5$

m: $\frac{1}{2}$ ↑ → b: 5

dashed above

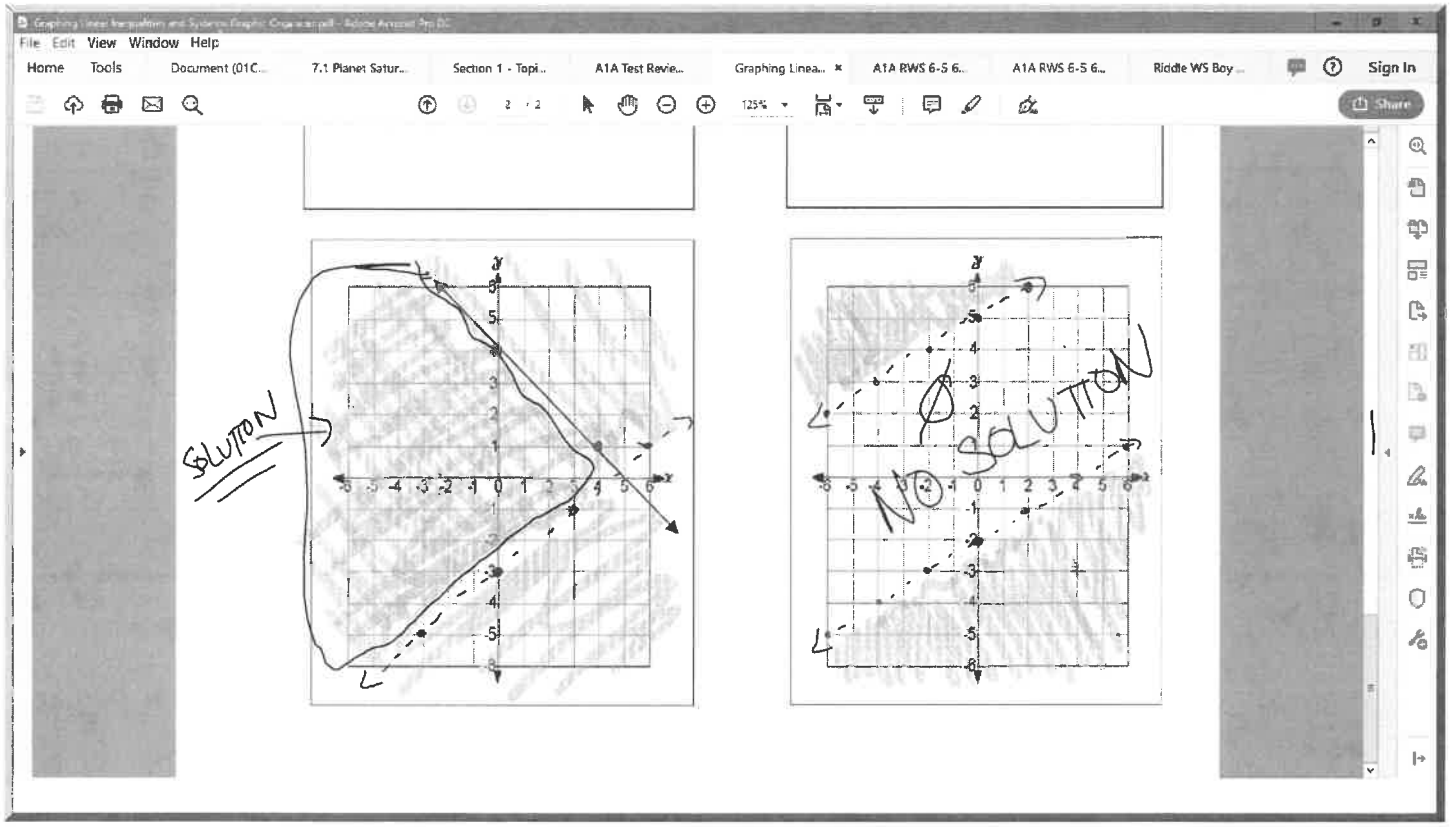
$\frac{6y}{6} < \frac{3x}{6} - \frac{12}{6}$

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

m: $\frac{1}{2}$ ↑ → b: -2

dashed

below



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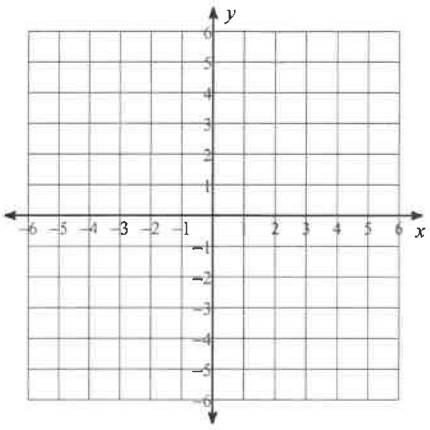
Algebra 1A Name_____

Graphing Linear Inequalities

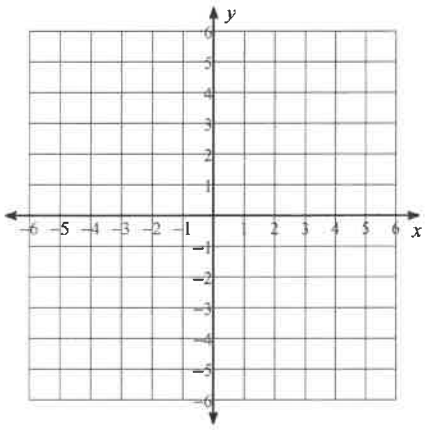
Teacher_____

Sketch the graph of each linear inequality.

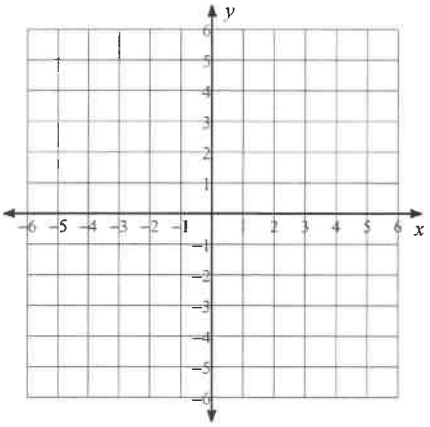
1) $y \geq \frac{6}{5}x + 2$



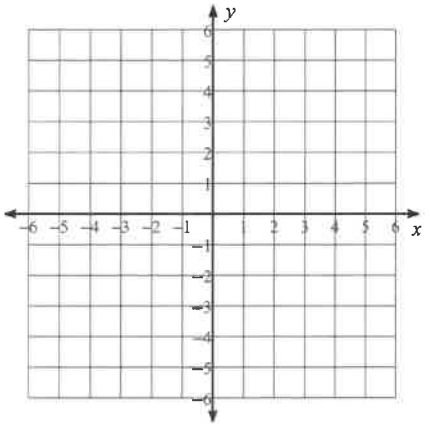
2) $y < \frac{1}{5}x - 3$



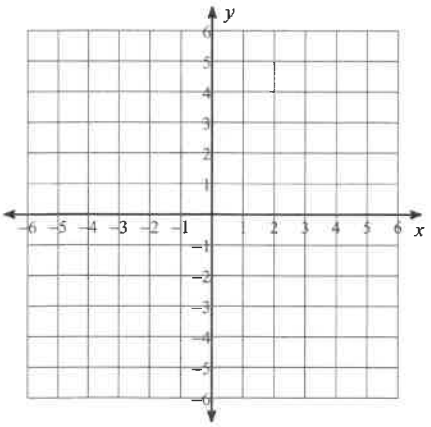
3) $y > 3x + 5$



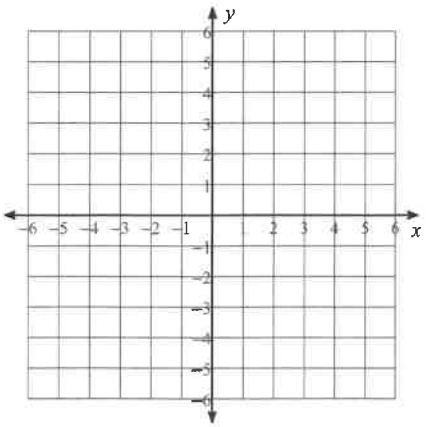
4) $y > -3$



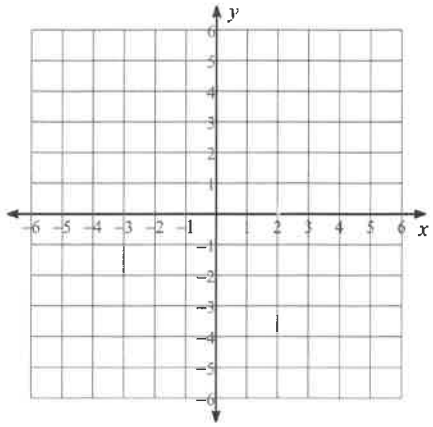
5) $y \geq \frac{2}{5}x + 3$



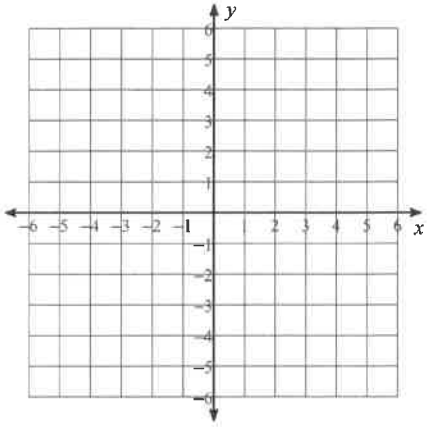
6) $y \geq -\frac{3}{5}x - 2$



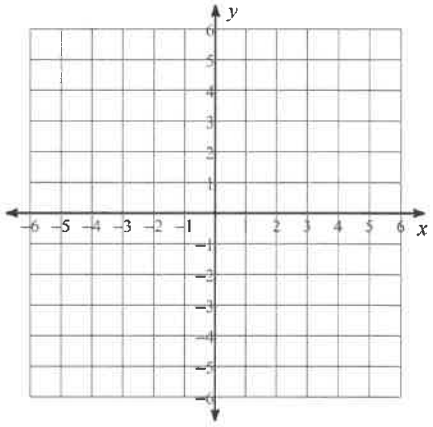
7) $y > x - 4$



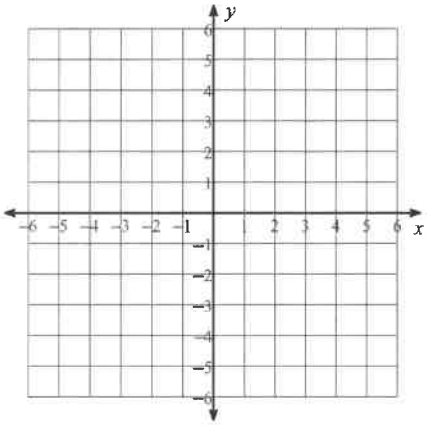
8) $y \leq \frac{5}{3}x - 1$



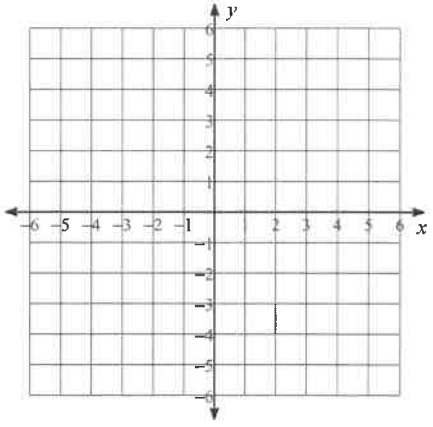
9) $y \leq 2x + 5$



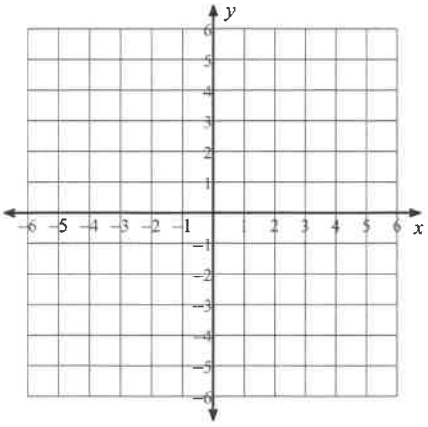
10) $y > \frac{1}{5}x - 2$



11) $y \geq \frac{4}{3}x + 5$



12) $y \geq -4x + 4$



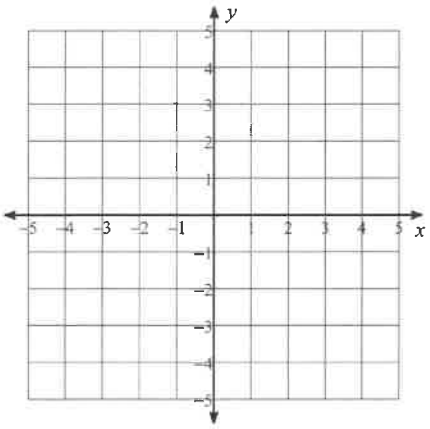
Algebra 1A Name_____

Graphing Systems of Linear Inequalities

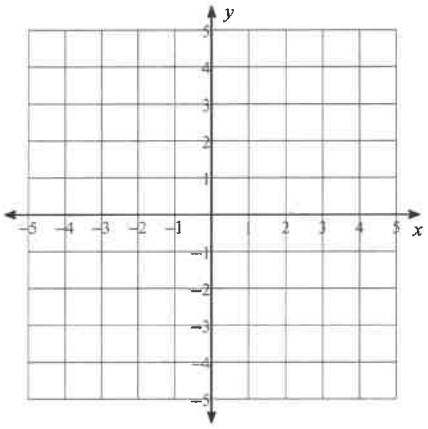
Teacher_____

Sketch the solution to each system of inequalities.

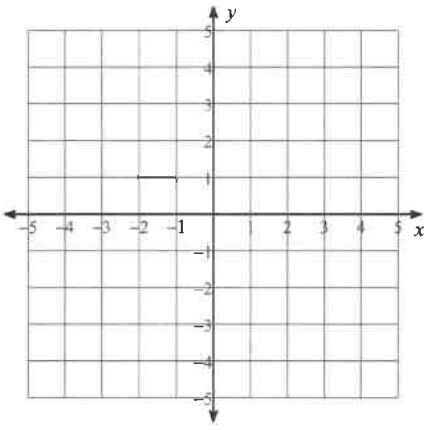
1) $y \geq x - 2$
$y > 5x + 2$



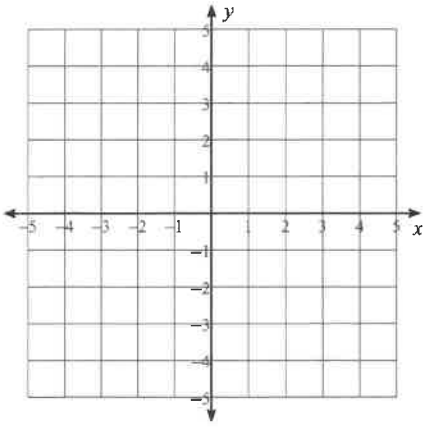
2) $y \geq -3x - 3$
$y \leq -\frac{1}{2}x + 2$



3) $y \geq -\frac{4}{3}x - 2$
$y \geq \frac{1}{3}x + 3$

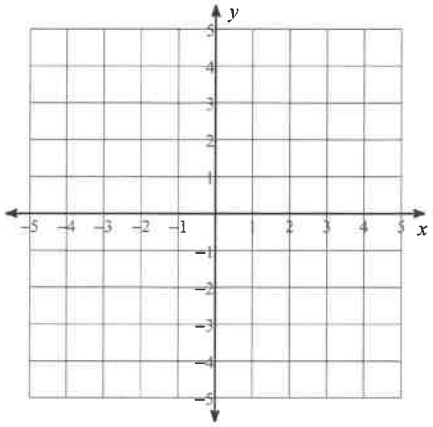


4) $y < x + 2$
$y < 5x - 2$



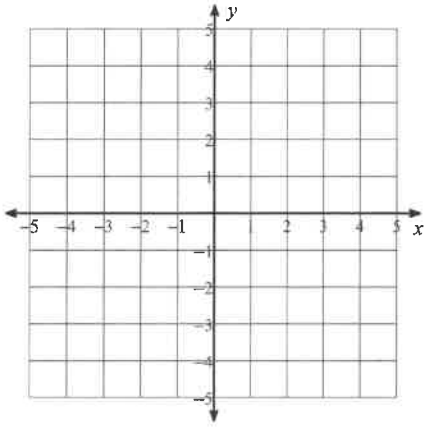
5) $y \geq \frac{2}{3}x - 3$

$y \leq -x + 2$



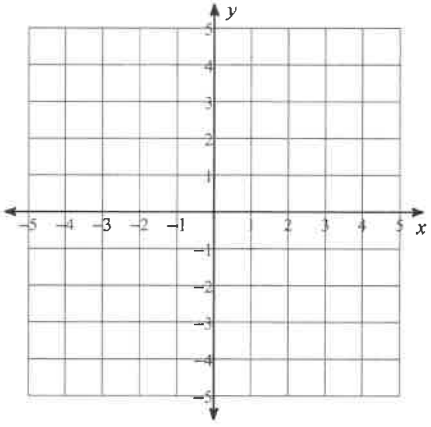
6) $y \geq -\frac{1}{3}x - 1$

$y \leq -\frac{4}{3}x + 2$



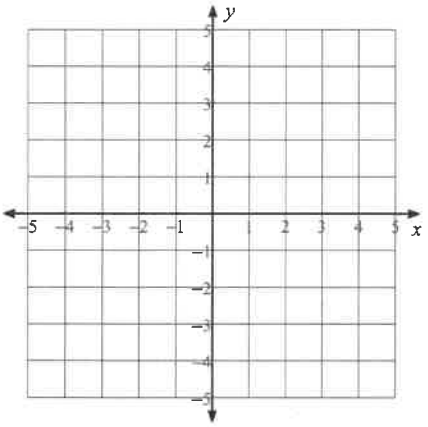
7) $y \geq \frac{2}{3}x - 3$

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



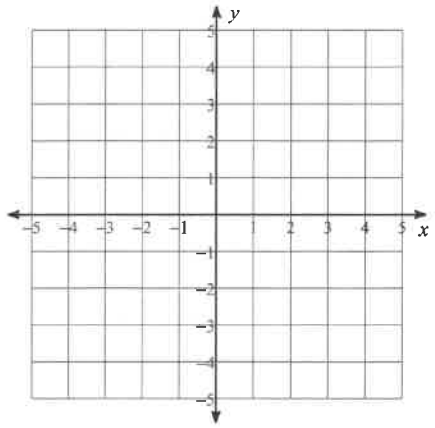
8) $y > -\frac{1}{3}x - 2$

$y \leq -2x + 3$



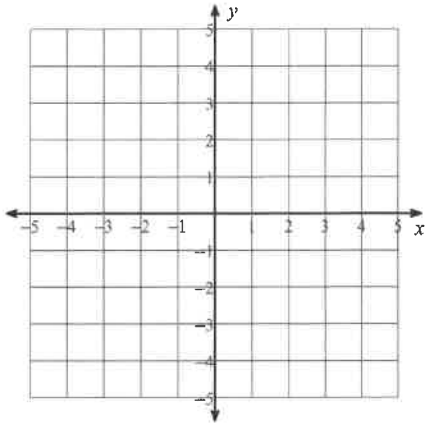
9) $y < \frac{1}{2}x - 2$

$y < -2x + 3$



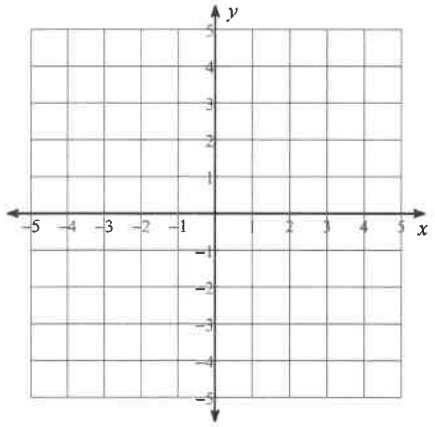
10) $y \geq \frac{2}{3}x - 3$

$y \geq -\frac{4}{3}x + 3$



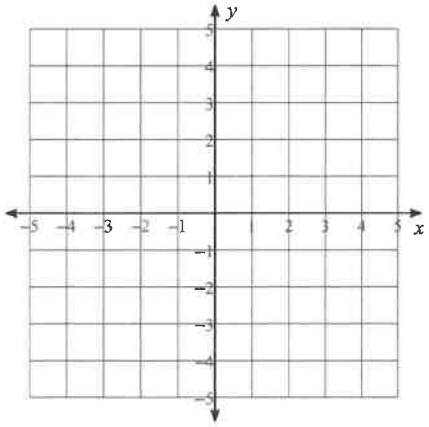
11) $y \leq -2x + 1$

$y \geq 2x - 3$



12) $y > \frac{4}{3}x + 2$

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



QUIZIZZ

NAME : _____

CLASS : _____

DATE : _____

Elimination & Systems of Inequalities

16 Questions

1. Which of the following is not a method to solve systems?

☐ a) Elimination ☐ b) Difference of Squares

☐ c) Substitution ☐ d) Graphing

2. What is the solution to the system of equations:x + 2y = -3x - y = -12

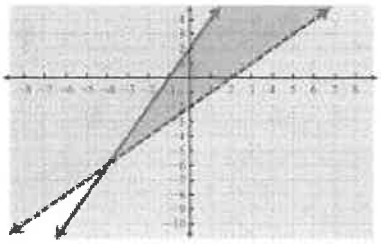
☐ a) (-9, 3) ☐ b) (-7 ,5)

☐ c) (3, 15) ☐ d) (9, 6)

3. Solve the system of equations:3x + 2y = 167x + y = 19

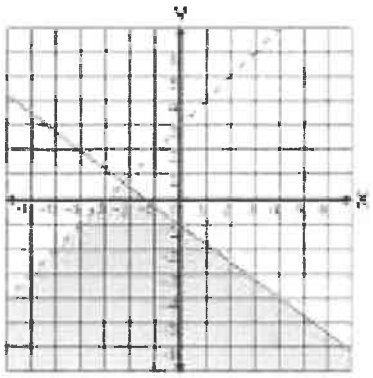
☐ a) (-2,5) ☐ b) (-2,-5)

☐ c) (2,-5) ☐ d) (2,5)

4.  Which ordered pair is one of the solutions to the system of inequalities?

☐ a) (2, 0) ☐ b) (1, 1)

☐ c) (4, -3) ☐ d) (-2, 2)

5. 

Which ordered pair is not a solution to the system of inequalities.

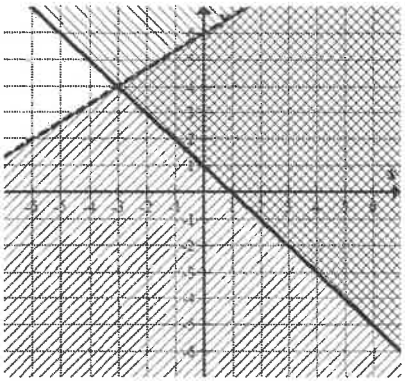
- ☐ a) (0, -1)
- ☐ b) (-2, -5)
- ☐ c) (-3, 0)
- ☐ d) (-2, 0)

6. Solve by using elimination method

$5x+y=9$

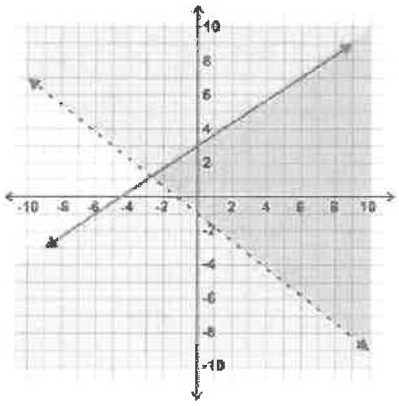
$10x-7y=-18$

- ☐ a) (2,3)
- ☐ b) (1,4)
- ☐ c) (7,2)
- ☐ d) (1,10)

7. 

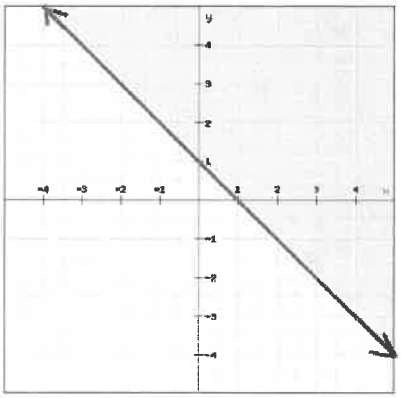
Which point is a solution?

- ☐ a) (0, 6)
- ☐ b) (-3, 4)
- ☐ c) (1, 0)
- ☐ d) (-4, 3)

8. 

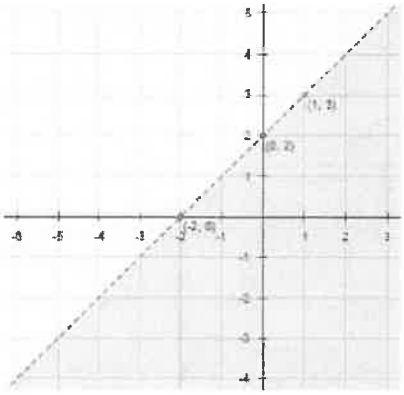
Which of the following is not a solution to this system of inequalities?

- ☐ a) (0,-1)
- ☐ b) (0,3)
- ☐ c) (4,0)
- ☐ d) (6,-2)

9. 

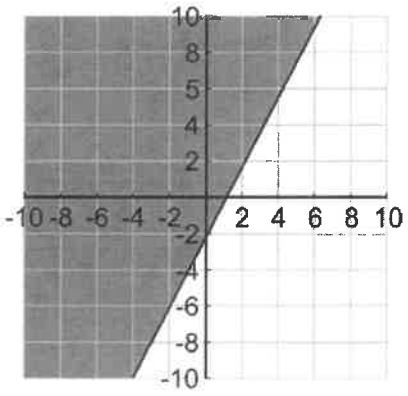
Which inequality is graphed on the given coordinate plane?

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

10. 

Which inequality is graphed on the given coordinate plane? The line is dashed.

- ☐ a) $y < x + 2$
- ☐ b) $y > x + 2$
- ☐ c) $y \leq x + 2$

11. 

Which inequality is graphed on the given coordinate plane? The line is solid.

☐ a) $y < 2x + 2$

☐ b) $y > {}^{1}/_{2}x - 2$

☐ c) $y \geq -2x + 2$

☐ d) $y \geq 2x - 2$

12. Solve by elimination:7x-9y=29
7x+2y=-15

☐ a) (-4,-1)

☐ b) (-1,-4)

☐ c) (-1,4)

☐ d) (-1,6)

13. When you graph an inequality, you used a solid line when you use which symbols?

☐ a) ≤, ≥

☐ b) <, >

14. When graphing an inequality, you use a dotted line when you use which symbol?

☐ a) <, >

☐ b) ≤, ≥

15. How can I tell if an inequality will have a solid line?

☐ a) It has an equal sign.

☐ b) The symbol is greater than.

☐ c) The symbol has "or equal to."

☐ d) You just guess.

16. Consider the function $y<2x+3$. Which is true?

- ☐ a) The line would be solid with shading above.
- ☐ b) The line would be dashed with shading above.
- ☐ c) The line would be solid with shading below.
- ☐ d) None of these.