Systems of Inequalities

Agenda

Warm-Up
Notes p. 84
Exit Ticket
Homework
- Practice #1 - 8

Reminders
- Test Friday
- All Unit 6 HW due Friday
- Test Corrections due Fri

Essential Question
How do I find possible solutions to a system of inequalities?

Turn in Systems Newsletter NOW!!!

Warm-Up

Chris wants to order DVDs over the internet. Each DVD costs $15.99 and shipping for the order costs $9.99. Chris has no more than $100 to spend.

1. Write an inequality that represents Chris' situation.

$15.99x + 9.99 \leq 100$

2. How many DVDs can Chris order without exceeding his $100 limit? Justify your answer mathematically. 5.6

5 DVDs

Systems of Inequalities p. 84

Essential Question How do I find possible solutions to a system of inequalities?

Review

To graph a line you need a Slope and a y-intercept

$y = mx + b$

GRAPHING INEQUALITIES

	Shade UP	Shade DOWN
Dotted	$>$	$<$
Solid	$\geq$	$\leq$

*y must be on left

I. Graph the linear inequalities

$y \geq -x + 1$ and $y \leq x$

$m = -1/1$

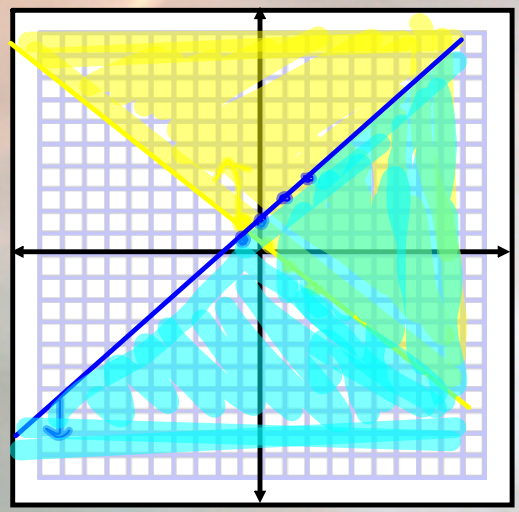
$b = 1$

SOLID UP

$m = 1/1$

$b = 0$

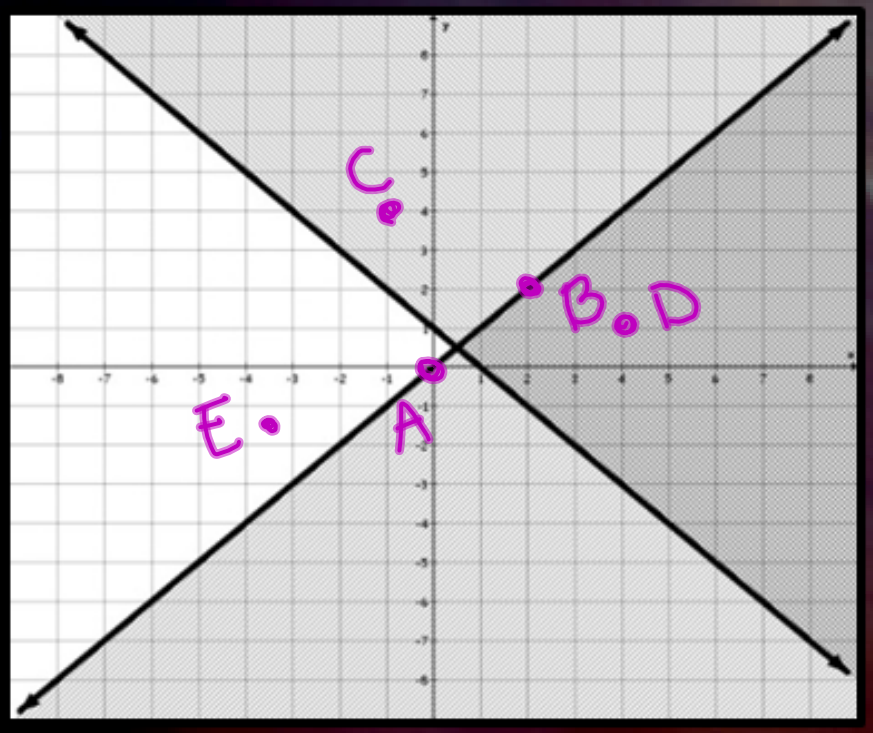
SOLID DOWN



Systems of Inequalities p. 84

Essential Question How do I find possible solutions to a system of inequalities?

State which points are solutions to the system of inequalities graphed below.

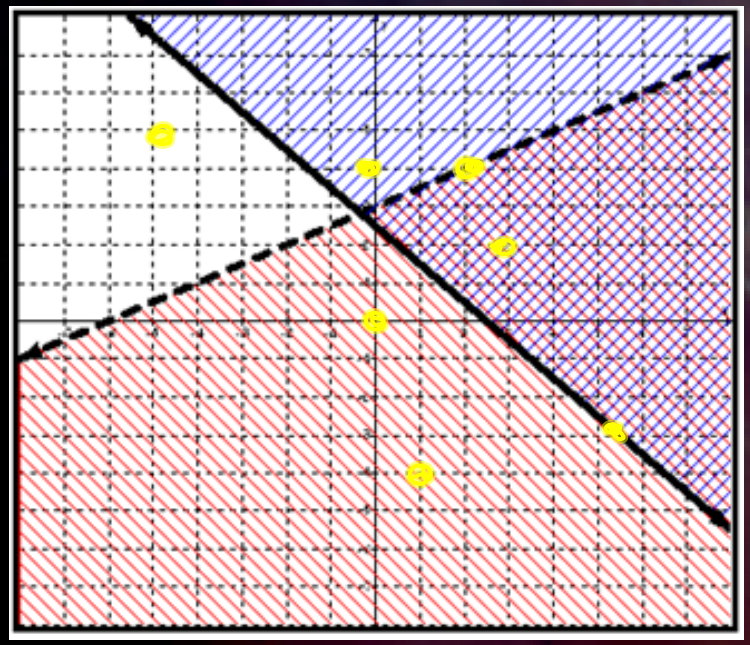


		Yes or No
A.	(0, 0)	NO
B.	(2, 2)	Yes
C.	(-1, 4)	No
D.	(4, 1)	Yes
E.	(-3.5, -1.5)	NO

where shading overlaps.

Systems of Inequalities p. 84

Essential Question How do I find possible solutions to a system of inequalities?



2. Circle the ordered pairs that represent solutions to the system of inequalities to the left.

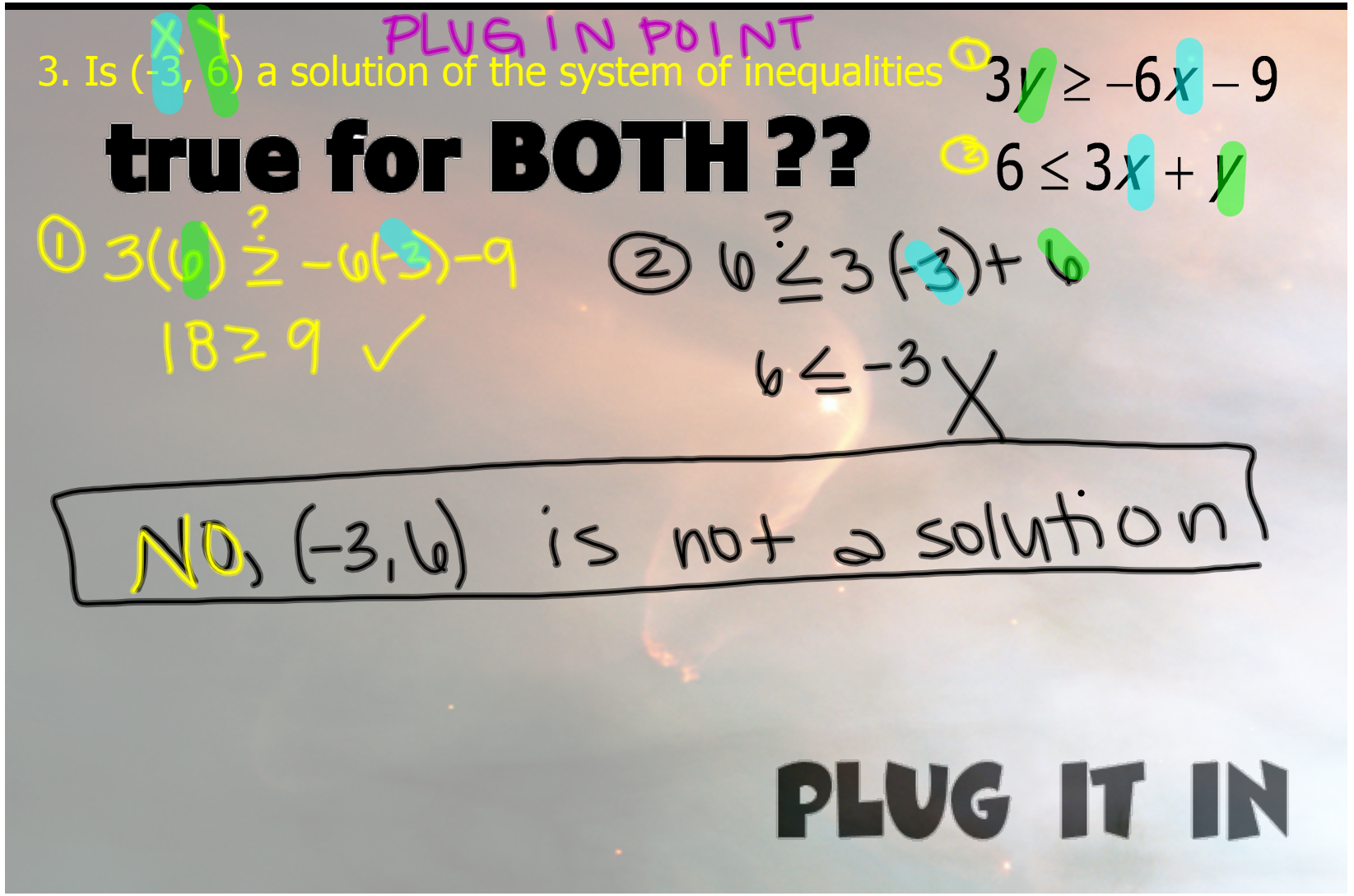
(-6, 5) (3, 2) (0, 4)

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

solutions are not on dotted lines

Systems of Inequalities p. 84

Essential Question How do I find possible solutions to a system of inequalities?



Systems of Inequalities p. 84

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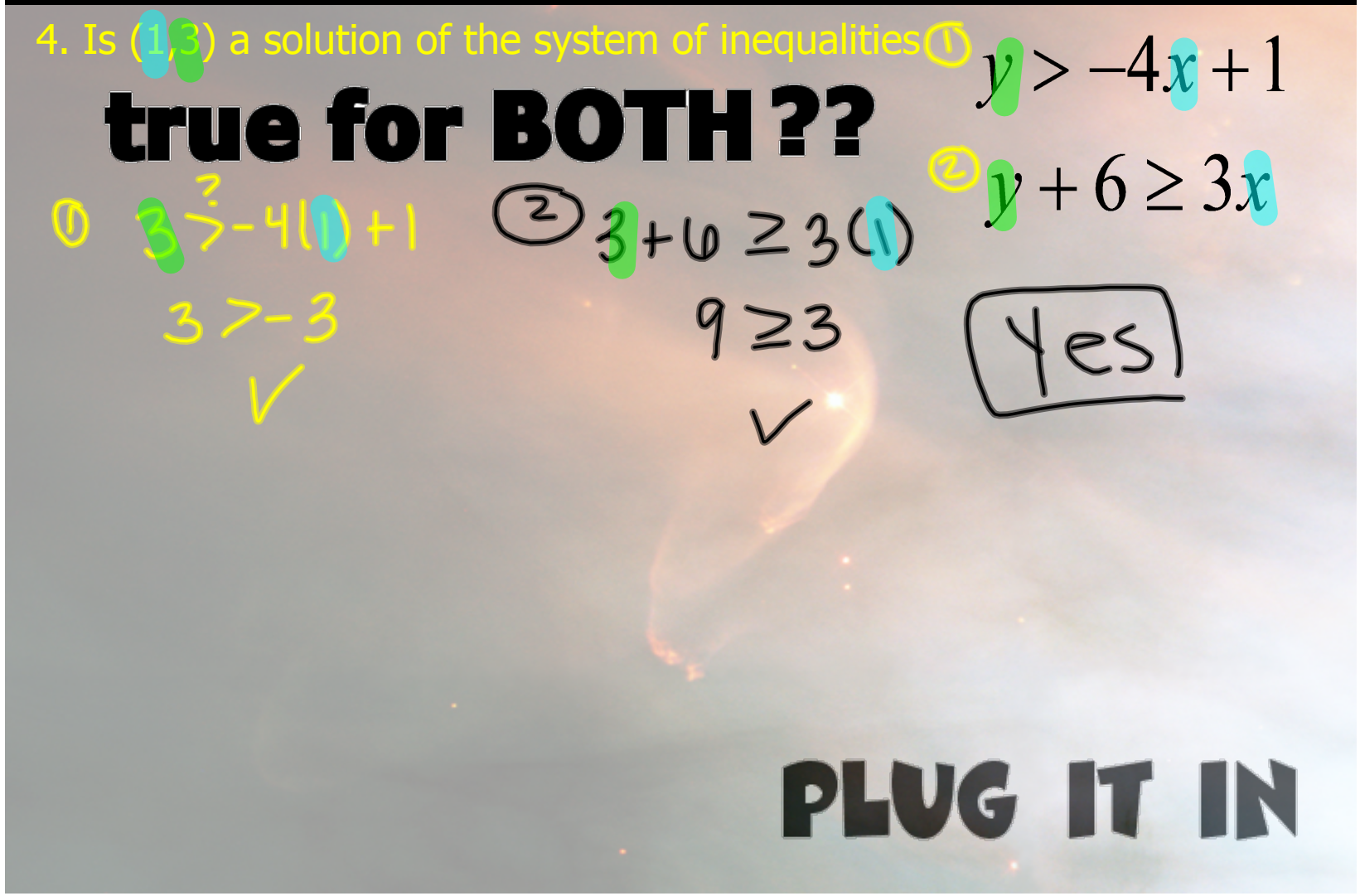
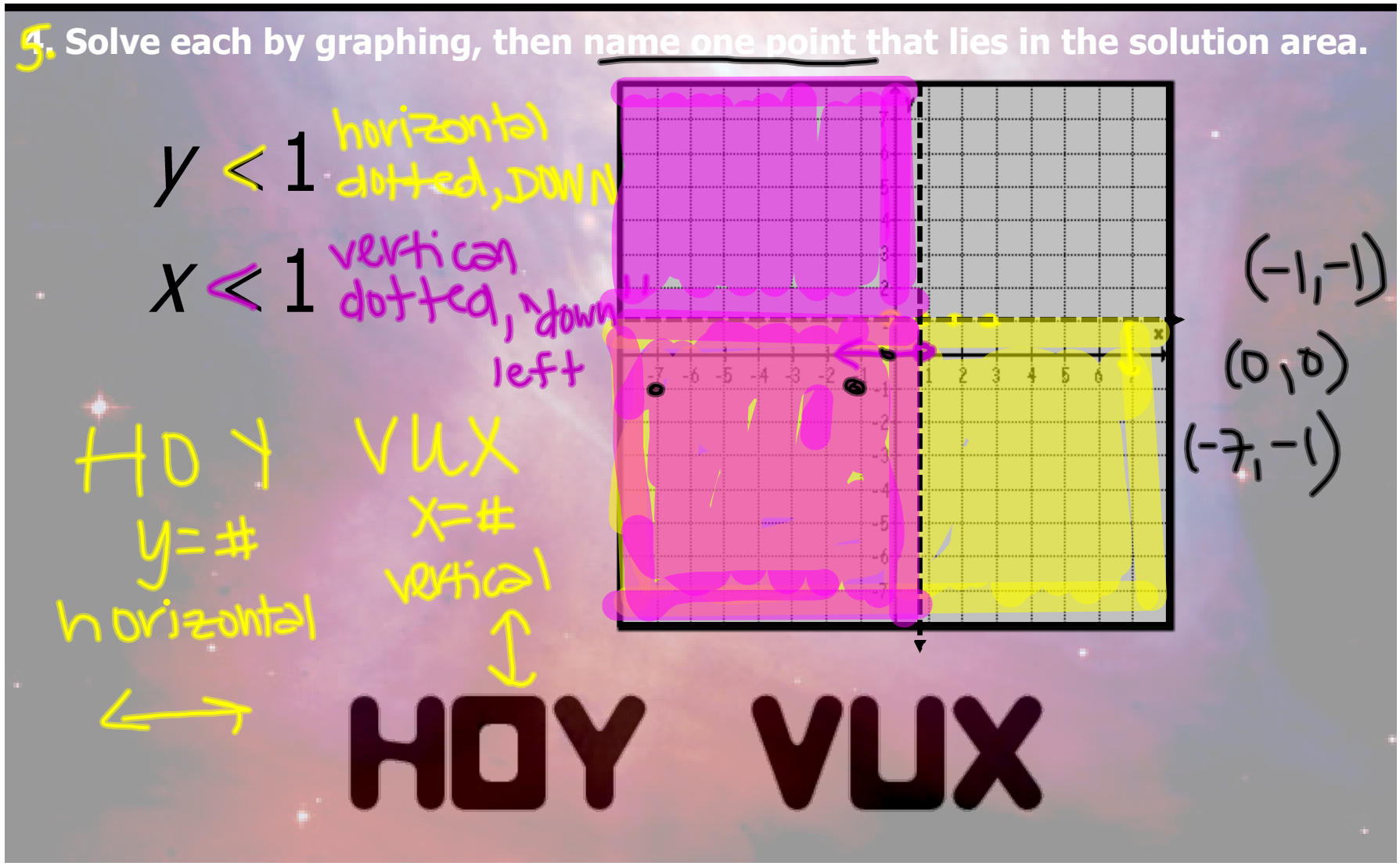


Systems of Inequalities p. 84

Essential Question How do I find possible solutions to a system of inequalities?



Systems of Inequalities p. 84

Essential Question How do I find possible solutions to a system of inequalities?

6

5. Solve each by graphing, then name one point that lies in the solution area.

$y < 3$ horizontal, dotted, down

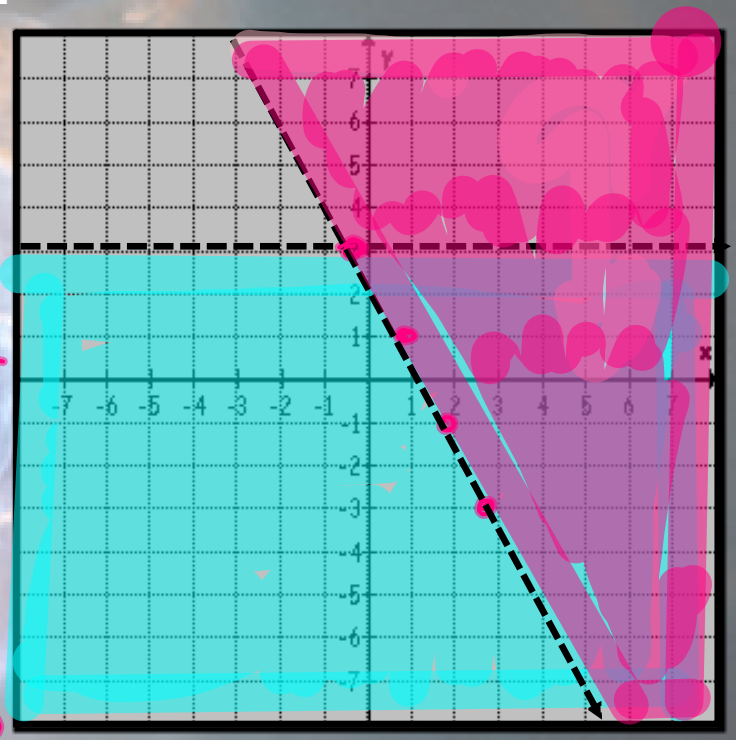
$8x + 4y > 12$ SOLVE FOR Y

$-8x \quad -8x$

$\frac{4y}{4} > \frac{-8x+12}{4}$

$y > -2x + 3$ dotted, up

$m = -\frac{2}{1} \quad b = 3$

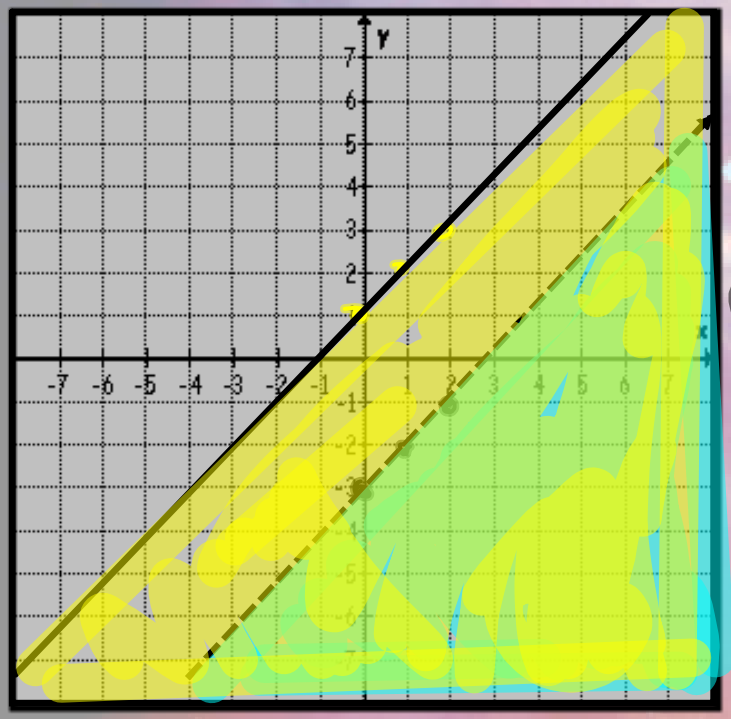


Divide by negative → FLIP SIGN

Systems of Inequalities p. 84

Essential Question How do I find possible solutions to a system of inequalities?

6. Solve each by graphing, then name one point that lies in the solution area.



① $2x - 2y > 6$

② $y - x \leq 1$

① $2x - 2y > 6$

$-2x \quad -2x$

$\frac{-2y}{-2} > \frac{-2x}{-2} + \frac{6}{-2}$

FLIP!

$y < x - 3$

DOTTED, DOWN

② $y - x \leq 1$

$+x \quad +x$

$y \leq x + 1$

SOLID

DOWN

Systems of Inequalities p. 84

Essential Question How do I find possible solutions to a system of inequalities?

- Notebooks
- Test corrections/Blitz makeups - must be done by FRIDAY in tutorials
- Test Friday - all of unit 6 - possibility to raise your first test score
- ALL HW (4.1, 4.2, 4.3, 4.4, and 4.5) due Friday

Test Averages:

2nd - 61

3rd - 67

4th - 66

5th - 64

This progress report was last updated THURSDAY. Does not need to be signed!!

Tutoring Availability: Mon/ Wed 4:15-5:00PM

Tues/Thurs 8:15-9:00 AM

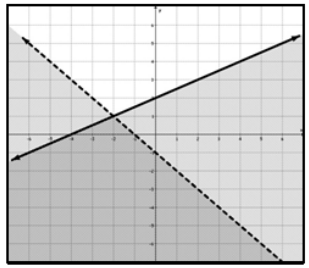
All other times: you must make an appointment (by email)

Algebra I - Unit 6: Topic 2

Practice – Systems of Inequalities pp 421-426

Name _____ Date _____ Period _____

1. State which points are solutions to the system of inequalities graphed below.

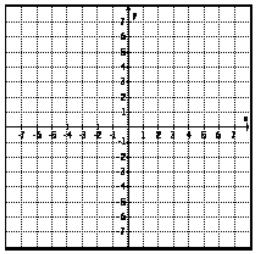


		Yes or No
A.	(0, 0)	_____
B.	(-3, 0)	_____
C.	(-1, -5)	_____
D.	(1, -2)	_____

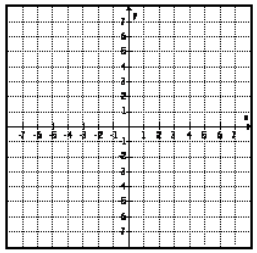
2. Is (2, -3) a solution of the system of inequalities $8 \geq 2x - y$ and $2y < -4x - 2$?

Solve each by graphing, then name one point that lies in the solution area.

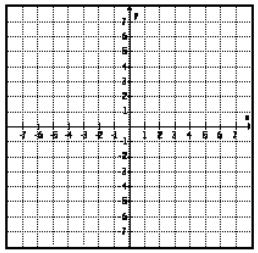
3. $y \geq 2x$
   $x \geq -1$



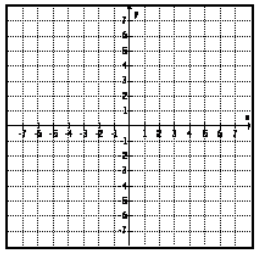
4. $y < x - 1$
   $y \leq 2x + 1$



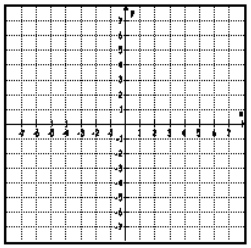
5. $y > x$
   $x - y \geq 3$



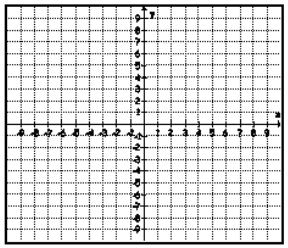
6. $y \geq x + 1$
   $4x + 5y \geq 20$



7. $x - 2y > -6$
   $2x + 2y \geq 5$



8. $x + y \leq 8$
   $x \geq 0$
   $y \geq 3$



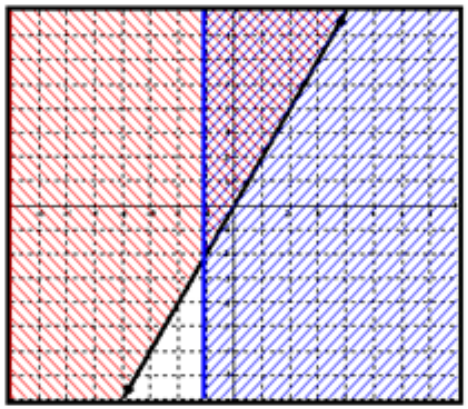
Answers:

1. A. No, B. Yes, C. Yes, D. No, E. No, F. Yes

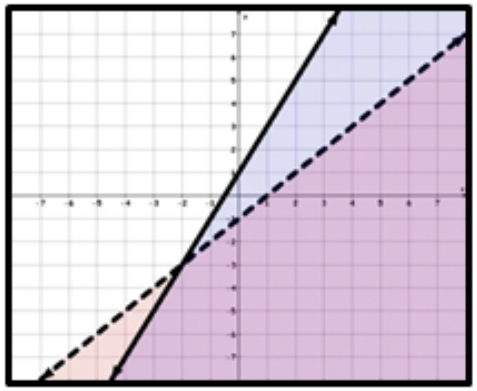
2. No, (2, -3) is not a solution.

** On 3 – 8, students were also to list an ordered pair that lies in the solution area. {Answers will vary}

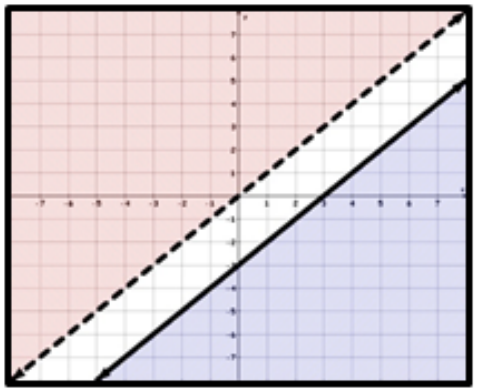
3.



4.



5. No Solution



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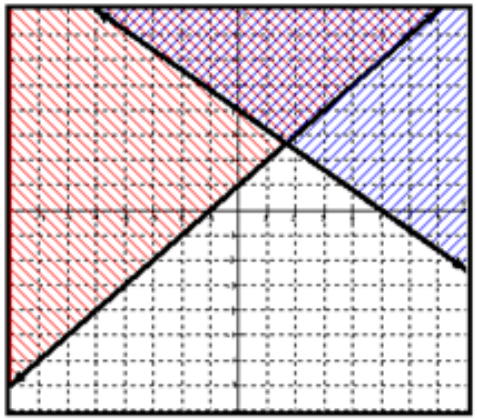

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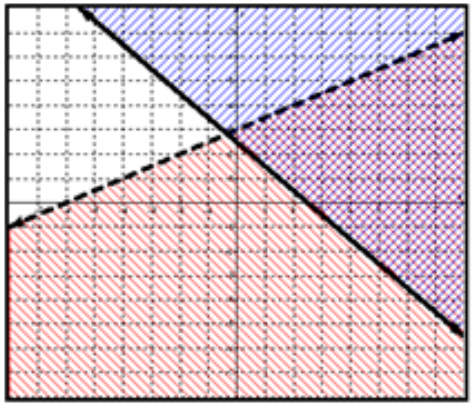

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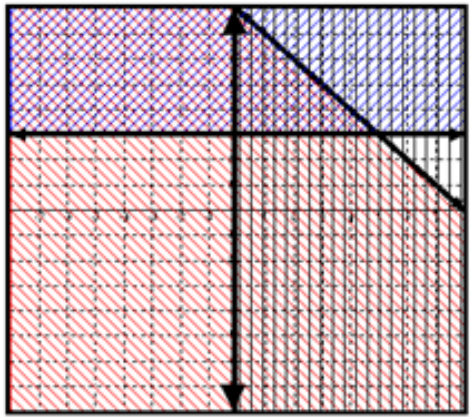

Congrats !! You Rock!!!

- Medals Day - FRIDAY! Wear your medals & AcDec Polo or Region shirt

- Parents Meeting for state - probably Thursday 5:30PM

- Regular Practice/Lunch schedule starts tmr

- Make a thank-you card for Bruner & I need shirt sizes!

- We will have score conferences tomorrow.

- HOWEVER, you must be passing all your classes!!

- Where do we want to focus?