READY, SET, GO! **Name** **Period** **Date**

READY

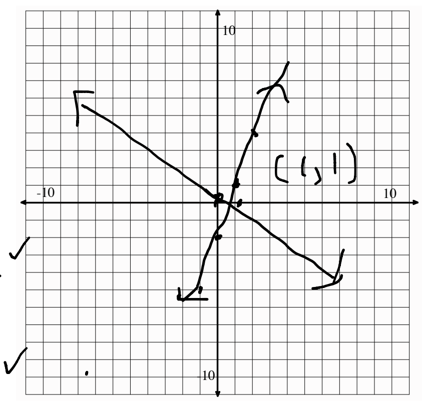
Topic: Determine if a given point is a solution to a system of equations.

Substitute the given points into both equations to determine which ordered pair satisfies the system of linear equations. Graph both equations and label the point of intersection to verify the solution.

$m=3$ $b=-2$

1. $y = 3x - 2$ *and* $y = x$ $m=1$ $b=0$

a. $(0, -2)$
b. $(2, 2)$
c. $(1, 1)$



a) $-2=3(0)-2$ $-2\neq 0$
$-2=-2$ ✓ No

b) $2=3(2)-2$ $2=2$ ✓
$2=6-2$ No
$2\neq 4$

c) $1=3(1)-2$ $1=1$ ✓
$1=3-2$ yes
$1=1$ ✓

$7=2(2)+3$ $7=2+5$
$7=7$ ✓ $7=7$ ✓

2. $y = 2x + 3$ *and* $y = x + 5$

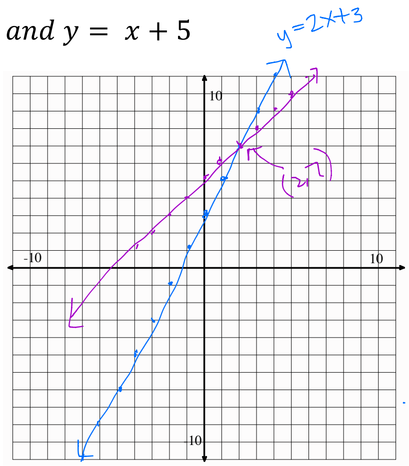
x y
a. $(2, 7)$
~~b. (-7, 11)~~
~~c. (0, 5)~~

$y=2x+3$
$11\neq 2(-7)+3$

$y=x+5$
$11\neq -7+5$

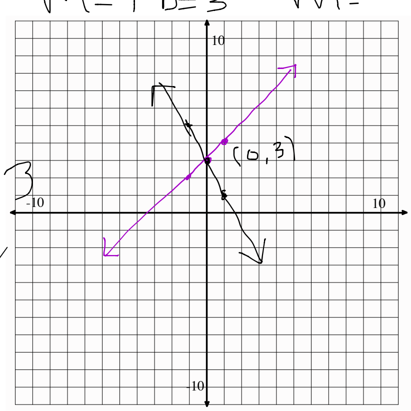
$y=2x+3$
$5\neq 2(0)+3$

$y=x+5$
$5=0+5$ ✓



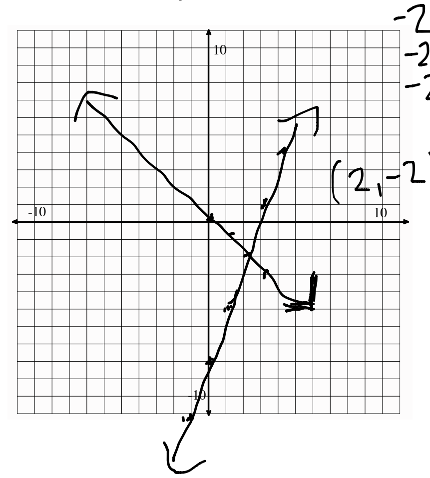
Solve the following systems by graphing. Check the solution by evaluating both equations at the point of intersection.

3. $y = x + 3$ *and* $y = -2x + 3$
$m=1$ $b=3$ $m=-2$ $b=3$



$3=0+3$
$3=3$ ✓
$3=-2(0)+3$
$3=3$ ✓

4. $y = 3x - 8$ *and* $y = -x$
$m=3$ $b=-8$ $m=-1$ $b=0$



$-2=3(2)-8$
$-2=6-8$
$-2=-2$ ✓
$-2=-2$ ✓

SET

Topic: Determining possible solutions to inequalities

Can go over

5. A theater wants to take in at least $2000 for the matinee. Children's tickets cost $5 each and adult tickets cost $10 each. The theater can seat up to 350 people. Find five combinations of children and adult tickets that will make the $2000 goal.

Limit: 350 Seats
$10 per Adult
$5 per child
Goal: Make over $2,000 (or equal)

~~50 Adults 35 children~~
50(10) + 35(5) = $675

~~100 Adults 100 children~~
100(10) + 100(5) = $1,500

$\boxed{\text{300 Ad 50 ch.}}$
300(10) + 50(5) = 3250

$\boxed{\text{100 Adults 200 children}}$
100(10) + 200(5) = $2,000

$\boxed{\text{150 Adults 200 children}}$
150(10) + 200(5) = 2500

$\boxed{\text{50 Ad 300 (5)}}$ =

$\boxed{\text{125 Ad 225 chi}}$ = $2,375

6. The Utah Jazz scored 102 points in a recent game. The team scored some 3-point shots, 2-point shots, and many free throws worth 1-point each. Find five combinations of baskets that would add up to 102 points.

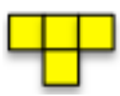
3-points	2-points	1-point	total points
34	0	0	102
0	51	0	102
20	15	12	102
10	33	6	102
7	28	25	102

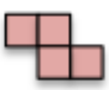
Answers will vary

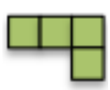
7. Use as many of the following shapes in any combination as you need to try to fill in as much of the 12 by 12 grid as you can. You may rotate or reflect a shape if it helps. Write your answer showing how many of each shape you used using the letters that identify shape.

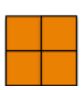
Example: 3a, 5b, 10c, 2d, 6e

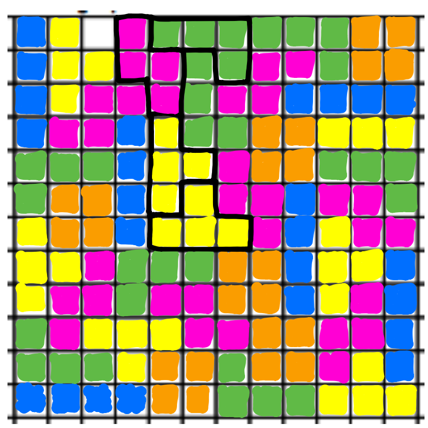
a.  6

b.  8

c.  8

d.  8

e.  6



GO

Topic: Graphing linear equations and determining if a given value is a solution

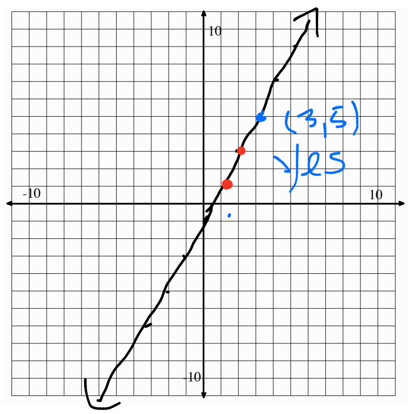
Graph each equation below; then determine if the point (3,5) is a solution to the equation. Name two points other than (3,5) that are solutions to the equation. Show these points on the graph.

8. $y = 2x - 1$

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

$5 = 2(3) - 1$
$5 = 6 - 1$ yes
$5 = 5$ ✓ solution

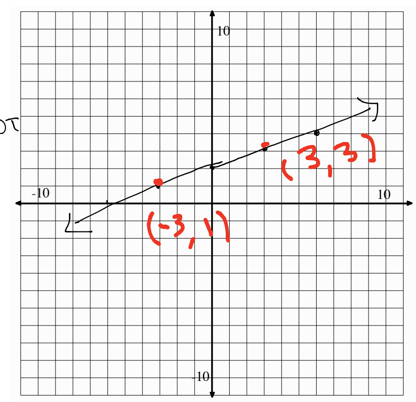
(1,1)
(2,3)



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

9. $y = \frac{1}{3}x + 2$

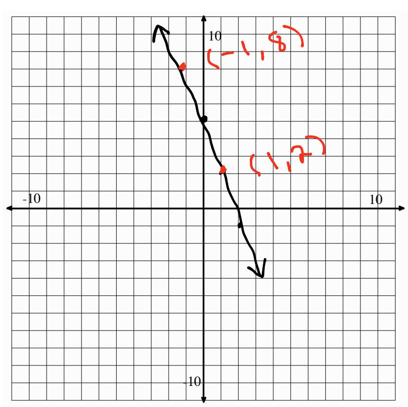
$5 = \frac{1}{3}(3) + 2$
$5 \neq 3$
(3,5) is NOT a solution



$m = -3$ $b = 5$

10. $y = -3x + 5$

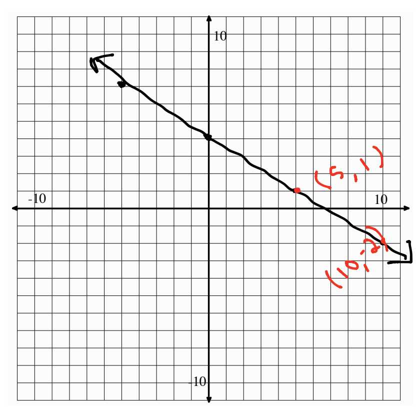
$5 = -3(3) + 5$
$5 \neq -4$
(3,5) is Not a solution



$m = \frac{-3}{5}$ $b = 4$

11. $y = \frac{-3}{5}x + 4$

$5 = \frac{-3}{5}(3) + 4$
$5 = -\frac{9}{5} + 4$
$5 \neq \frac{11}{5}$
so (3,5) is Not a solution



The tables below represent different arithmetic sequences. Fill in the missing numbers. Then write the explicit equation for each.

12.

y - intercept   slope m = -8

term (x) 0	1	2	3	4
value (y) 25	17	9	1	-7

+8 $-7 - 17 = -24 \div 3 = -8$ -8   -8

Equation: $\boxed{y = -8x + 25}$

slope
m = -2

y-intercept

13.

term(x) 0	1	2	3	4	5	6	7	8	9	10	11	12	13
term(y) 19	17	15	13	11	9	7	5	3	1	-1	-3	-5	-7

+2 -2 -2 -2

Equation:

$y = -2x + 19$

y-intercept

14.

term (x) 0	1	2	3	4	5	6	7
value (y) 21	17	13	9	5	1	-3	-7

+4 -4 -4 -4 -4

slope
m = -4

Equation:

$y = -4x + 21$

15. Each of the sequences above begins and ends with the same number. Would the graph of each sequence represent the same line? Justify your thinking.

These equations do not represent the same line because they have different slopes and y-intercepts.

16. If you graphed each of these sequences and made them continuous by connecting each point, where would they intersect?

They would intersect at the point (1, 17) since that point is in both sequences.