Name

Alg I.

6.1 Solve Linear Systems by Graphing

I can graph and solve systems of linear equations.

Semester Exam

System of Linear Equations: aka linear system; 2 or more linear equations with the same variables

$$x + 2y = 7$$
$$3x - 2y = 5$$

Solution of a System of linear equations: An ordered pair that works for both equations

Consistent Independent System: A system with exactly 1 solution

Steps to Solve a Linear System

1) Graph both equations using $y = mx + b$
2) Estimate point of intersection
3) Check the coordinates in each equation

Example 1/2:

1) $-5x + y = 0$

$+5x \quad +5x$

$y = 5x$

$m = \frac{5}{1}$ $b = (0,0)$

$-5(1) + 5 = 0$

$-5 + 5 = 0$

$0 = 0$ ✓

$5x + y = 10$

$-5x \quad -5x$

$y = -5x + 10$

$m = \frac{-5}{1}$ $b = (0,10)$

$5(1) + (5) 10$

$5 + 5 = 10$

$10 = 10$ ✓

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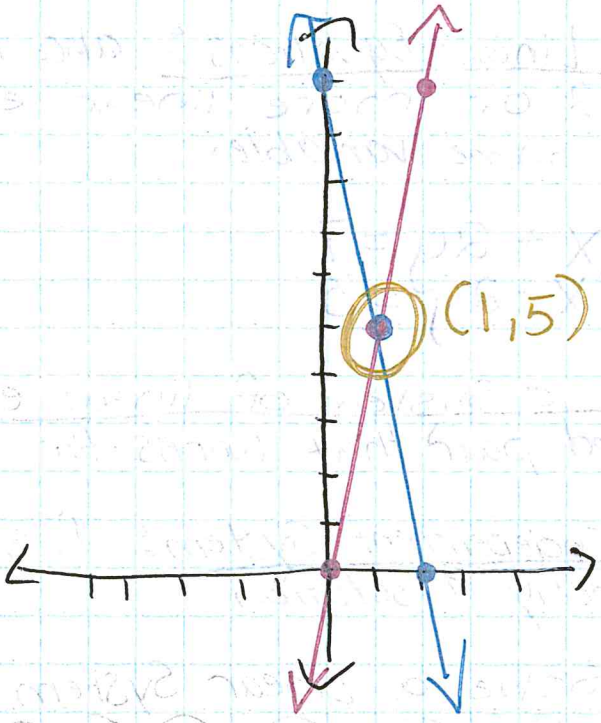


2) $-1x+2y=3$

$+1x \quad +1x$

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

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

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

$b = (0, 3/2)$

$-1+2(2)=3$

$-1+4=3$

$3=3$ ✓

$2x+y=4$

$-2x \quad -2x$

$y = -2x+4$

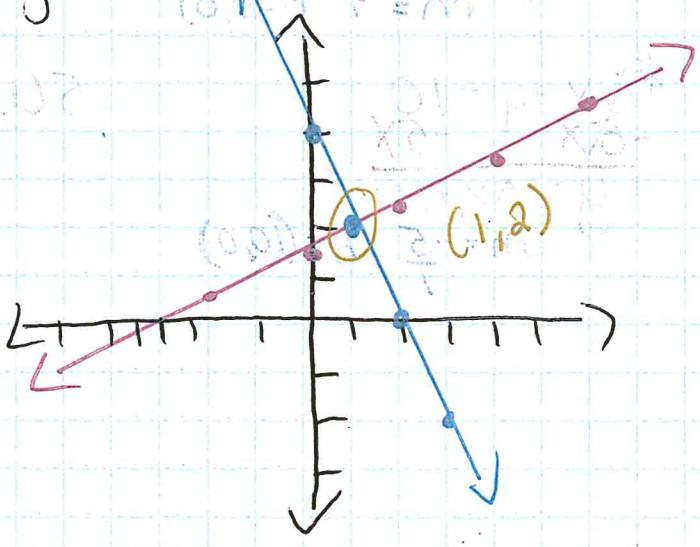
$m = \frac{-2}{1}$

$b = (0,4)$

$2(1)+2=4$

$2+2=4$

$4=4$ ✓



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* Complete Skills Practice, pg. 373, #

3) $1x - y = 5$

$-1x \quad -1x$

$-y = -1x + 5$

$-1 \quad -1 \quad -1$

$y = x - 5$

$m = 1/1$

$b = (0, -5)$

$2 - -3 = 5$

$2 + 3 = 5$

$5 = 5$ ✓

$3x + y = 3$

$-3x \quad -3x$

$y = -3x + 3$

$m = -3/1$

$b = (0, 3)$

$3(2) + -3 = 3$

$6 - 3 = 3$

$3 = 3$ ✓