

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Determine if (2, 1) is a solution to the following systems: Answer yes or no!

1)  $x - y = 1$      $(2) - (1) = 1$  ✓ Yes!  
 $3x + y = -5$      $3(2) + (1) = -5$   
 $6 + 1 \neq -5$  NO!

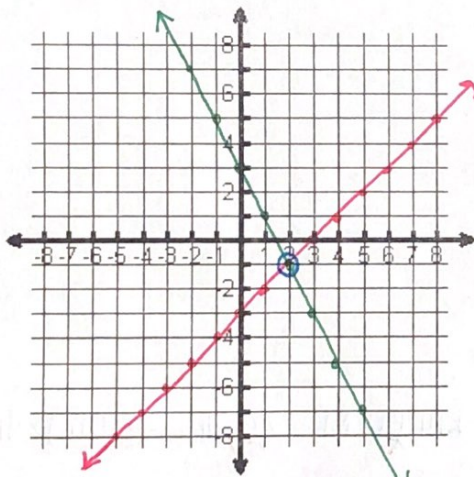
2)  $-4x + 3y = -5$   
 $-x - y = -3$

(2, 1) is NOT a solution

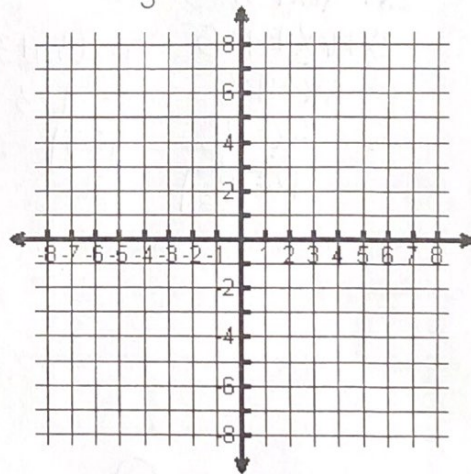
Yes!

For 3 – 6, solve each system graphically. Write your solution in the blank provided. Check each solution.

(2, -1) 3)  $y = -2x + 3$      $m = -\frac{2}{1}$      $b = 3$   
 $y = x - 3$      $m = \frac{1}{1}$      $b = -3$



(-6, 0) 4)  $y = \frac{1}{2}x + 3$   
 $y = -\frac{2}{3}x - 4$

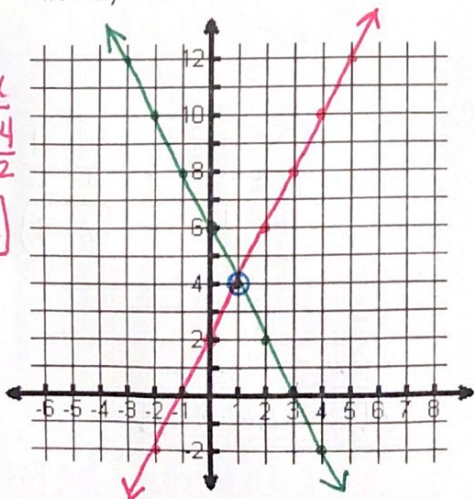


(1, 4) 5)  $2x + y = 6$      $y = -2x + 6$      $m = -\frac{2}{1}$      $b = 6$   
 $-4x + 2y = 4$

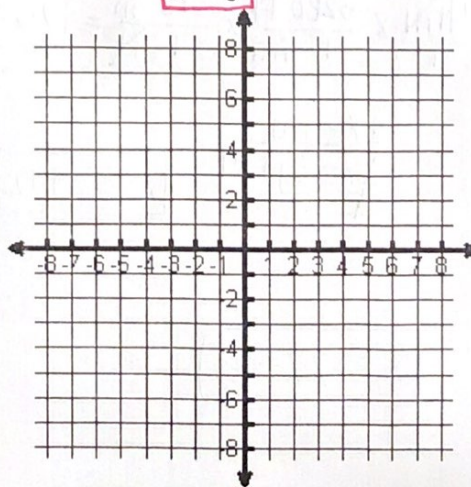
$-4x + 2y = 4$   
 $+4x$      $+4x$   


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 $\frac{2y}{2} = \frac{4x + 4}{2}$   
 $y = 2x + 2$   
 $m = \frac{2}{1}$   
 $b = 2$



(-6, 3) 6)  $y = 3$   
 $x = -6$



Solve each linear system using substitution.

7)  $(5, 9)$

$$\begin{aligned} y &= x + 4 \\ 2x + y &= 19 \\ 2x + (x + 4) &= 19 \\ 3x + 4 &= 19 \\ 3x &= 15 \\ x &= 5 \end{aligned}$$

$$\begin{aligned} y &= x + 4 \\ y &= (5) + 4 \\ y &= 9 \end{aligned}$$

8)  $(-5, 18)$

$$\begin{aligned} y &= -3x + 3 \\ 7x + 2y &= 1 \end{aligned}$$

9)  $(-1/2, 2)$

$$\begin{aligned} y &= 2x + 3 \\ 2x + 3y &= 5 \\ 2x + 3(2x + 3) &= 5 \\ 2x + 6x + 9 &= 5 \\ 8x + 9 &= 5 \\ 8x &= -4 \\ x &= -1/2 \end{aligned}$$

$$\begin{aligned} y &= 2(-1/2) + 3 \\ y &= -1 + 3 \\ y &= 2 \end{aligned}$$

10)  $(-7, 4)$

$$\begin{aligned} x + 2y &= 1 \\ 5x + 3y &= -23 \end{aligned}$$

Review

11. Mrs. Pinto is painting a rectangular wall in her house. The wall is 4 meters high and the width is 25 dm. What is the area of the wall she is painting?

KHDBDCM  $25 \text{ dm} = 2.5 \text{ m} \times 4 \text{ m} = 10 \text{ m}^2$

A. 100 m

B. 10 m

C. 10 dm

D. 58 m

12. Convert 4 miles to inches.

$$4 \text{ mi} \times \frac{5280 \text{ ft}}{1 \text{ mi}} \times \frac{12 \text{ in}}{1 \text{ ft}} = 293,440 \text{ in}$$

13. Solve  $2x - 3y = 24$  for (x)

$$\begin{aligned} 2x - 3y &= 24 \\ +3y + 3y & \\ \hline 2x &= 3y + 24 \\ \frac{2x}{2} &= \frac{3y + 24}{2} \\ x &= \frac{3}{2}y + 12 \end{aligned}$$

14. Solve for x.

$$\begin{aligned} 5 - 2x + 1 &= 3 \\ 2x + 1 &= 16 \\ -1 -1 & \\ \hline 2x &= 14 \\ \frac{2x}{2} &= \frac{14}{2} \\ x &= 7 \end{aligned}$$

15. Multiply:  $(x + 5)(x - 3)$

$$x^2 + 2x - 15$$

16. Factor:  $\frac{4x^2}{2} - \frac{2x}{2} - \frac{12}{2}$  GCF: 2

$$\begin{aligned} 2(2x^2 - x - 6) \\ 2(x - 2)(x + 3) \end{aligned}$$