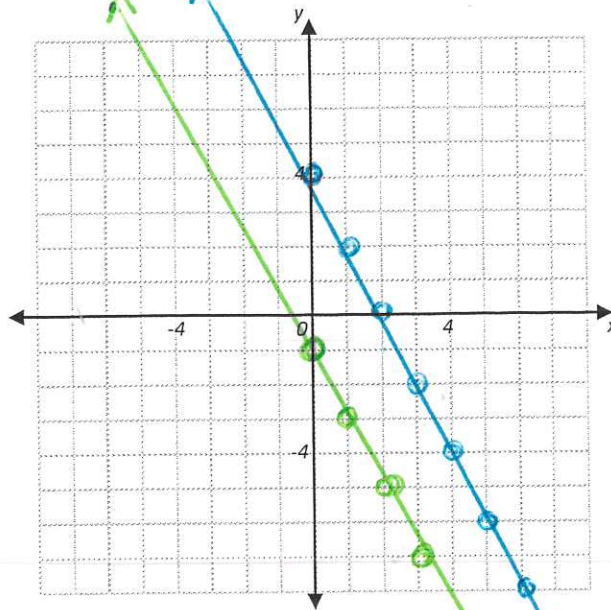


## TWIST

6. Graph the systems of equations and find the solution.

$$\begin{cases} y = -2x + 4 \\ y = -2x - 1 \end{cases}$$



$$\begin{array}{r} / + \setminus \\ \downarrow \\ 0 \quad \quad \quad 0 \end{array}$$

$$\begin{array}{l} \downarrow y = -2x + 4 \\ \downarrow y = -2x - 1 \end{array}$$

7. What do you notice about these lines? parallel

8. What is the solution and why? no solution

9. Do you think this will always be true of a system of parallel lines? Why or why not? yes

LOCK IT IN:

parallel = no solution

10. Determine if the following points are on the line  $y = \frac{1}{2}x + 3$ .

(1,-1)

$$-1 = \frac{1}{2}(1) + 3$$

$$-1 = \frac{1}{2} + 3$$

$$-1 = 3.5$$

no

(2,4)

$$4 = \frac{1}{2}(2) + 3$$

$$4 = 1 + 3$$

$$4 = 4$$

yes

(4,5)

$$5 = \frac{1}{2}(4) + 3$$

$$5 = 2 + 3$$

$$5 = 5$$

yes

11. Determine if the following points are on the line  $y = 2x - 3$ .

(1,-1)

$$-1 = 2(1) - 3$$

$$-1 = 2 - 3$$

$$-1 = -1$$

yes

(2,4)

$$4 = 2(2) - 3$$

$$4 = 4 - 3$$

$$4 = 1$$

no

(4,5)

$$5 = 2(4) - 3$$

$$5 = 8 - 3$$

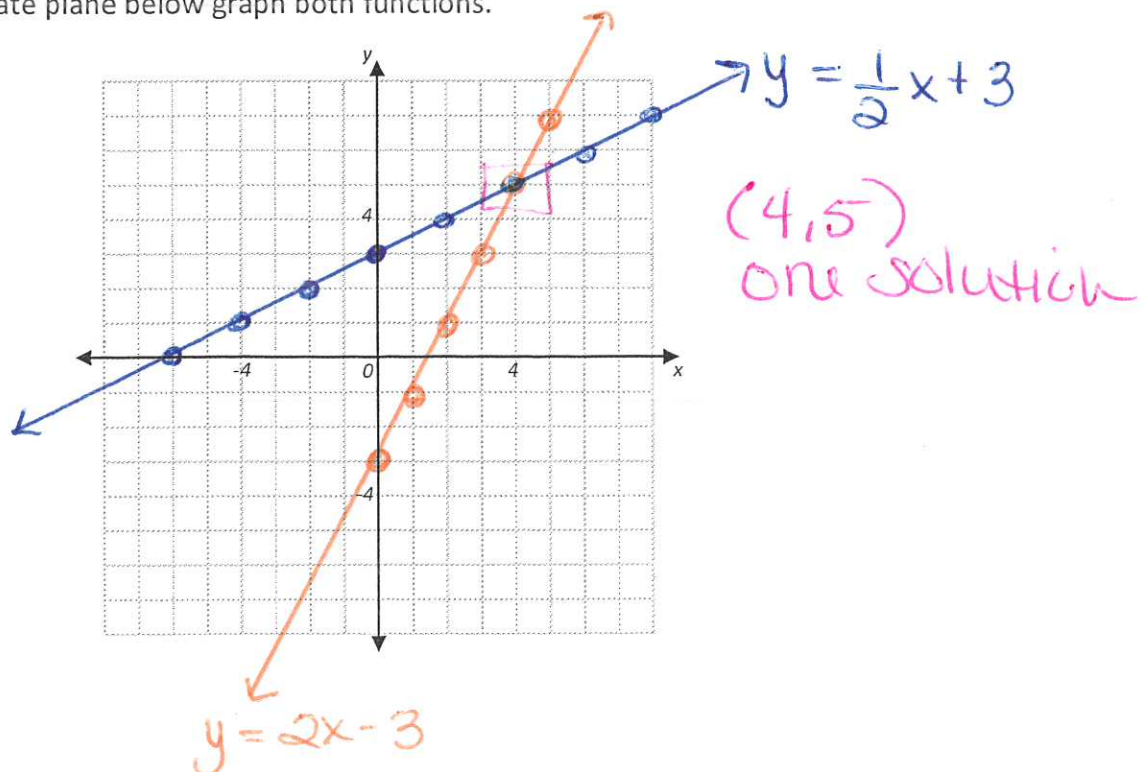
$$5 = 5$$

yes

12. Do you think these lines will intersect? Why?

yes, they share the same ordered pair

13. On the coordinate plane below graph both functions.

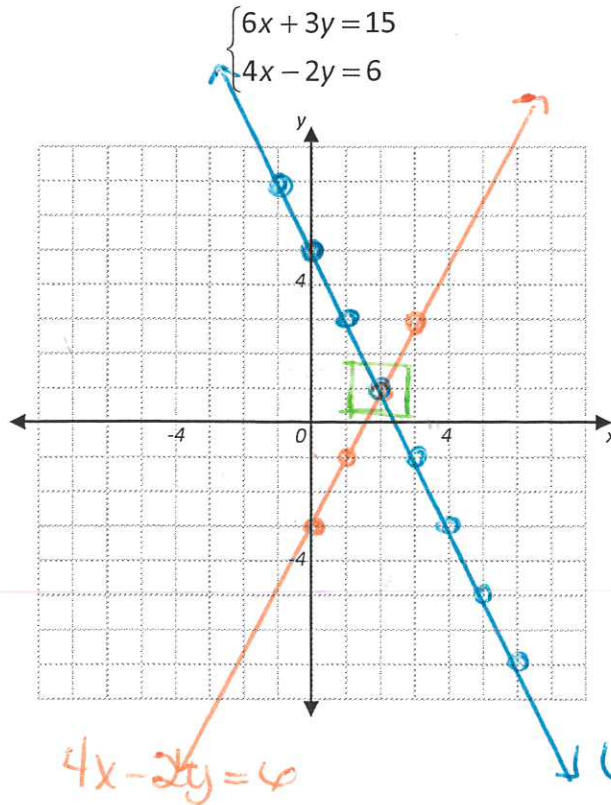


## STAY STEADY

14. Graph the systems of equations and find the solution.

$$\begin{array}{r} 6x + 3y = 15 \\ -6x \qquad -6x \\ \hline 3y = -6x + 15 \\ \frac{3y}{3} = \frac{-6x + 15}{3} \end{array}$$

$$y = -2x + 5$$



$$\begin{array}{r} 4x - 2y = 6 \\ -4x \qquad -4x \\ \hline -2y = -4x + 6 \\ -2 \qquad -2 \end{array}$$

$$\frac{-2y}{-2} = \frac{-4x + 6}{-2}$$

$$y = 2x - 3$$

$$(2, 1)$$

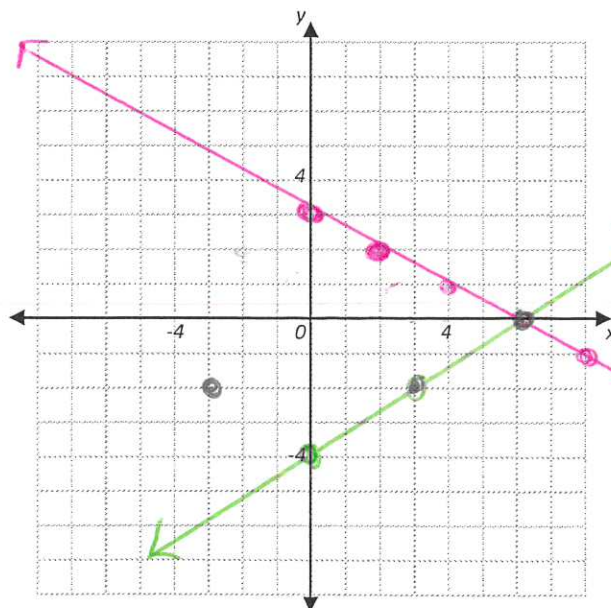
15. Graph the systems of equations and find the solution.

$$\begin{array}{r} 2x + 4y = 12 \\ -2x \qquad -2x \\ \hline 4y = -2x + 12 \\ \frac{4y}{4} = \frac{-2x + 12}{4} \end{array}$$

$$\frac{4y}{4} = \frac{-2x + 12}{4}$$

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

$$\begin{cases} 2x + 4y = 12 \\ 6y - 4x = -24 \end{cases}$$



$$\begin{array}{r} 6y - 4x = -24 \\ +4x \qquad +4x \\ \hline 6y = 4x - 24 \\ \frac{6y}{6} = \frac{4x - 24}{6} \end{array}$$

$$\frac{6y}{6} = \frac{4x - 24}{6}$$

$$y = \frac{2}{3}x - 4$$

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

$$(4, 0)$$

one solution.