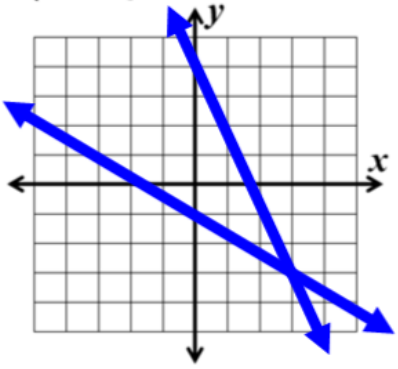
3.3 Graphing Systems of Equations

Algebra 1 Name: Solutions **Practice**

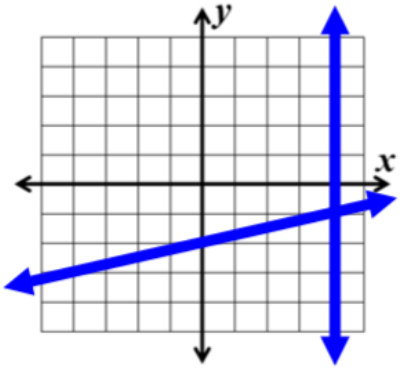
Solve each system of equations by graphing.

1. $\begin{cases} y = -\frac{7}{3}x + 4 \\ y = -\frac{2}{3}x - 1 \end{cases}$



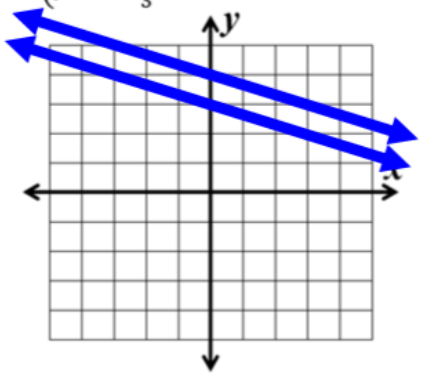
Answer: (3, -3)

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



Answer: (4, -1)

3. $\begin{cases} y = -\frac{1}{3}x + 3 \\ y = -\frac{1}{3}x + 4 \end{cases}$

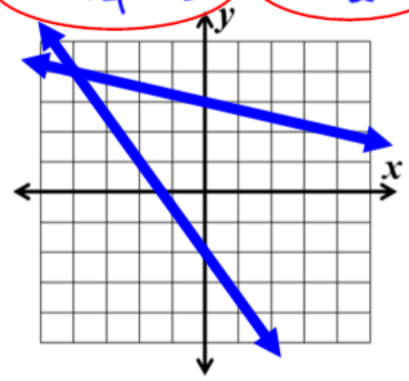


Answer: no solutions

4. $\begin{cases} x + 4y = 12 \\ 3x + 2y = -4 \end{cases}$

$4y = -x + 12$ $2y = -3x - 4$

$y = -\frac{1}{4}x + 3$ $y = \frac{-3}{2}x - 2$

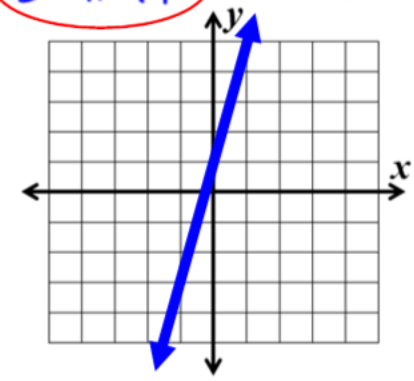


Answer: (-4, 4)

5. $\begin{cases} 4x - y = -1 \\ 2y - 8x = 2 \end{cases}$

$-y = -4x - 1$ $2y = 8x + 2$

$y = 4x + 1$ $y = 4x + 1$

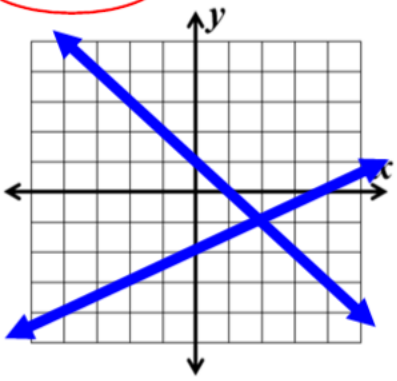


Answer: Infinite Sol.

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

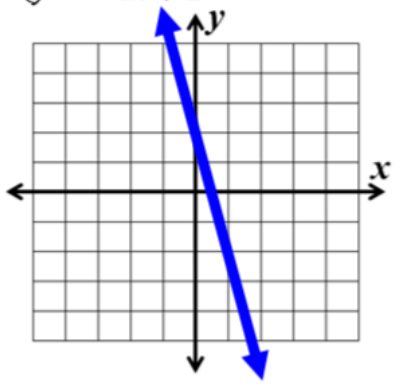
$-2y = -x + 4$ $y = -x + 1$

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



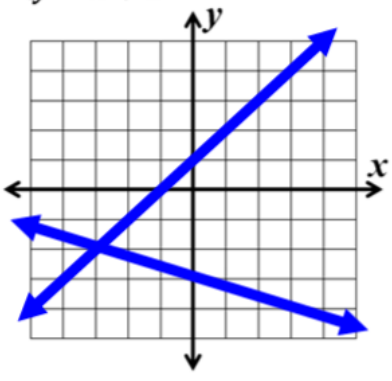
Answer: (2, -1)

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



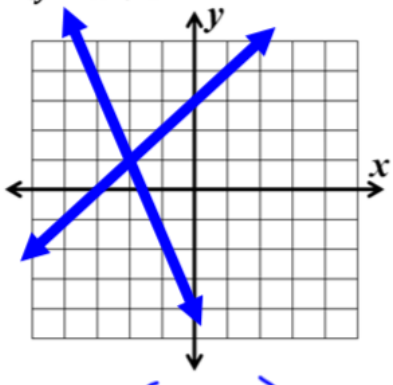
Answer: Infinite Sol.

8. $\begin{cases} y = -\frac{1}{3}x - 3 \\ y = x + 1 \end{cases}$



Answer: (-3, -2)

9. $\begin{cases} y = -\frac{5}{2}x - 4 \\ y = x + 3 \end{cases}$



Answer: (-2, 1)

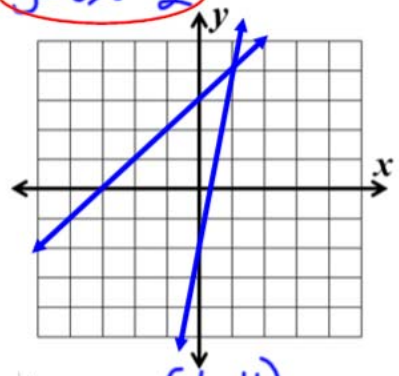
10. $\begin{cases} 6x - y = 2 \\ x - y = -3 \end{cases}$

$-y = -x - 3$

$y = x + 3$

$-y = -6x + 2$

$y = 6x - 2$



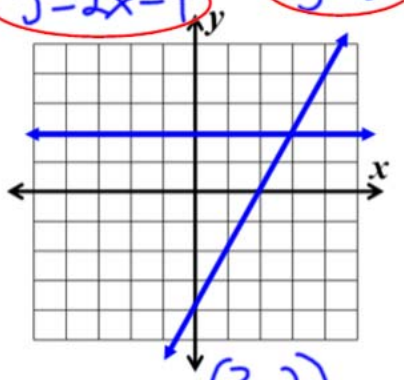
Answer: (1, 4)

11. $\begin{cases} 2x - y = 4 \\ y = 2 \end{cases}$

$-y = -2x + 4$

$y = 2x - 4$

$y = 2$



Answer: (3, 2)

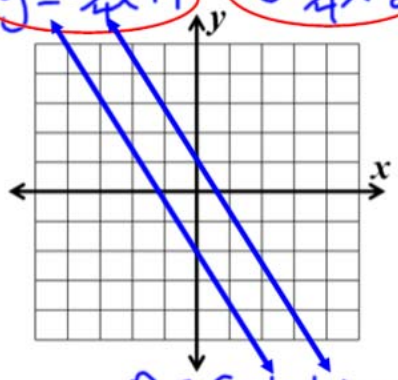
12. $\begin{cases} 7x + 4y = 4 \\ 7x + 4y = -8 \end{cases}$

$4y = -7x + 4$

$y = -\frac{7}{4}x + 1$

$4y = -7x - 8$

$y = -\frac{7}{4}x - 2$



Answer: no solution

Use a graphing calculator to solve the following systems. Round your answer to two decimal places.

13. $\begin{cases} y = -\frac{2}{3}x - 1 \\ y = -3x - 9 \end{cases}$

Answer: (-3.43, 1.29)

14. $\begin{cases} y = 17x - 9 \\ y = \frac{1}{2}x + 7 \end{cases}$

Answer: (0.97, 7.48)

15. $\begin{cases} 3x + y = 7 \\ 4x - 3y = 15 \end{cases}$

$y = -3x + 7$

$-3y = -4x + 15$

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

Answer: (2.77, -1.31)

16. $\begin{cases} 2x + 7y = 28 \\ 11x + 5y = -35 \end{cases}$

$7y = -2x + 28$

$y = -\frac{2}{7}x + 4$

$5y = -11x - 35$

$y = -\frac{11}{5}x - 7$

Answer: (-5.75, 5.64)

17. Solve

$-5x - 8(2x - 8) = -104$

$-5x - 16x + 64 = -104$

$-21x + 64 = -104$

$-21x = -168$

$x = 8$

18. Simplify

$3 - 6(8v - 2)$

$3 - 48v + 12$

$-48v + 15$

19. Simplify

$7(b + 2) + b$

$7b + 14 + b$

$8b + 14$