

Write your questions
and thoughts here!**Notes****Types of Solutions for a System of Equations**

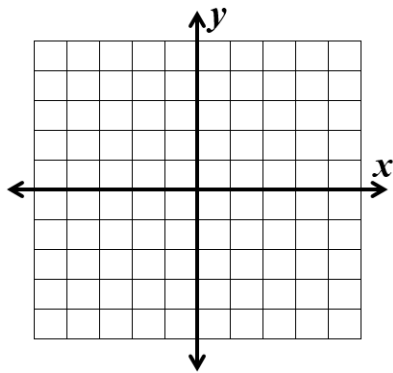
1.

2.

3.

Example 1: One solution

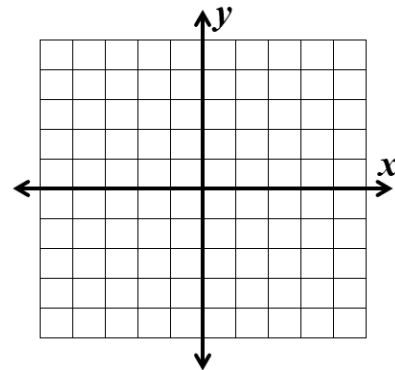
$$\begin{cases} y = \\ y = \end{cases}$$



Answer: _____

Example 2: One solution

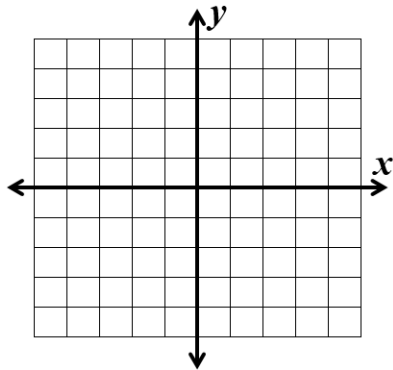
$$\begin{cases} 2x + y = \\ x + 2y = \end{cases}$$



Answer: _____

Example 3: No Solution

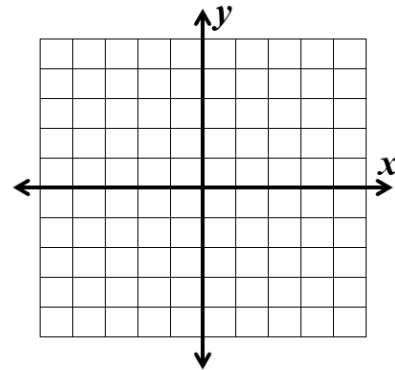
$$\begin{cases} x - y = 2 \\ x - y = -1 \end{cases}$$



Answer: _____

Example 4: Infinite Solutions

$$\begin{cases} 3x - 9y = 18 \\ x - 3y = 6 \end{cases}$$

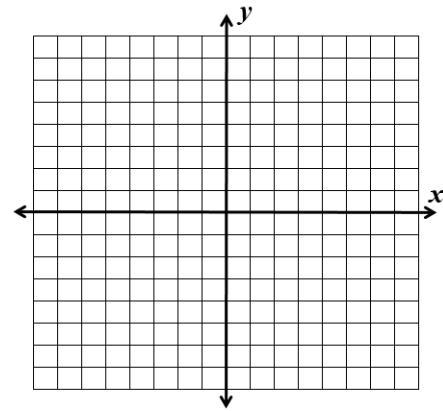


Answer: _____

Write your questions and thoughts here!

Example 5: Graphing Calculator Required!

$$\begin{cases} 2x + y = -7 \\ 5x + 7y = 7 \end{cases}$$



Answer: _____

Finding the Point of Intesection on a TI-83 or TI-84 Graphing Calculator

- Solve each equation for y.
- Hit the **y=** button and enter each equation. Clear anything extra.
- Get a standard viewing window. **zoom** and **5:ZSquare** **6:ZStandard** **7:ZTrig**
- Make sure you can see the point of intersection on your screen.
- 2nd** and **trace** to calculate the **4:maximum** **5:intersect** **6:dy/dx** of the two lines.
- First curve? Hit Enter
- Second curve? Hit Enter
- Guess? Hit Enter
- Abracadabra! Write down your solution as an ordered pair.

Now summarize what you learned!

3.3 Graphing Systems of Equations

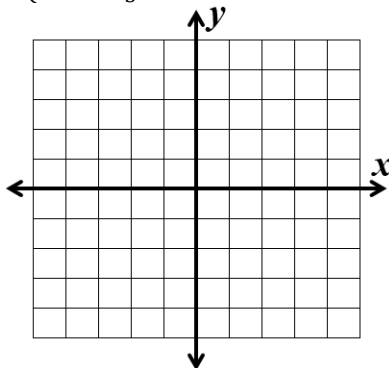
Algebra 1

Name: _____

Practice

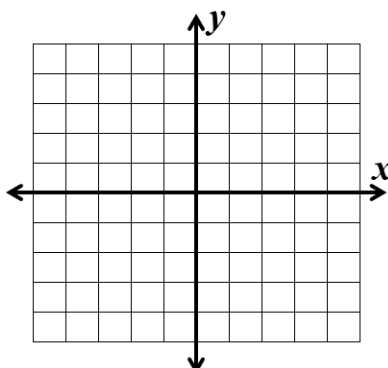
Solve each system of equations by graphing.

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



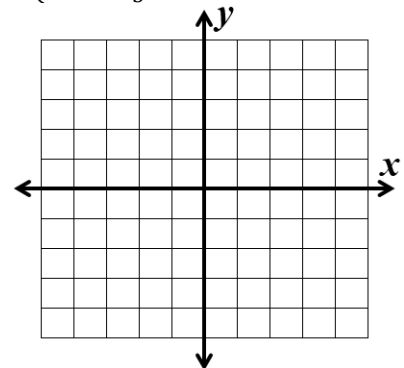
Answer: _____

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



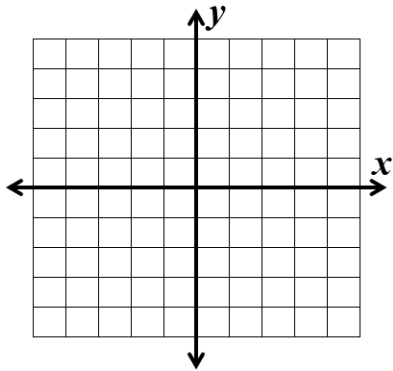
Answer: _____

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



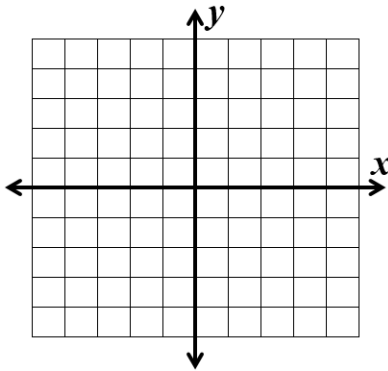
Answer: _____

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



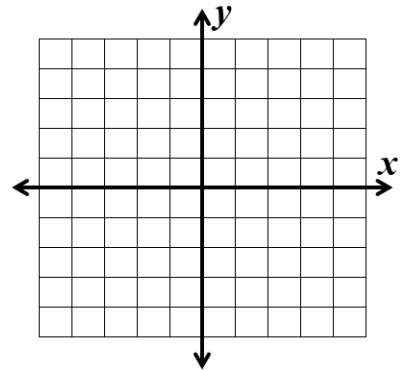
Answer: _____

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



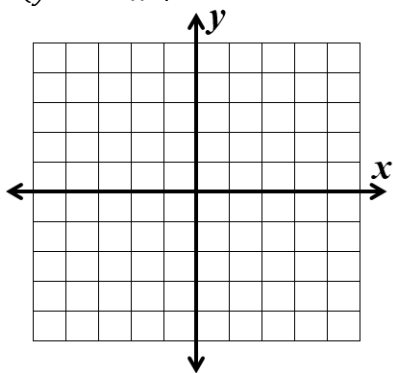
Answer: _____

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



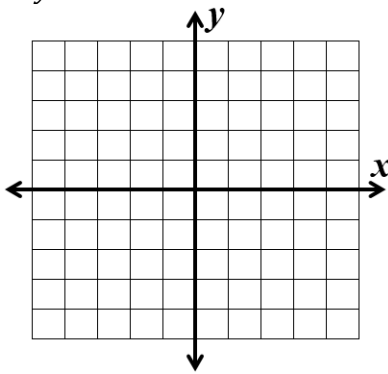
Answer: _____

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



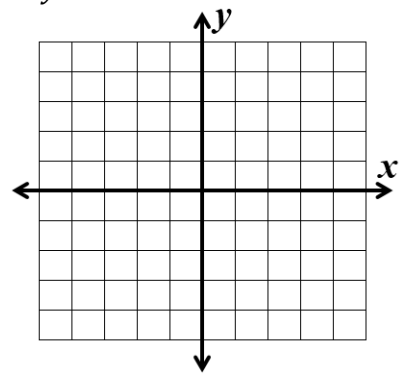
Answer: _____

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



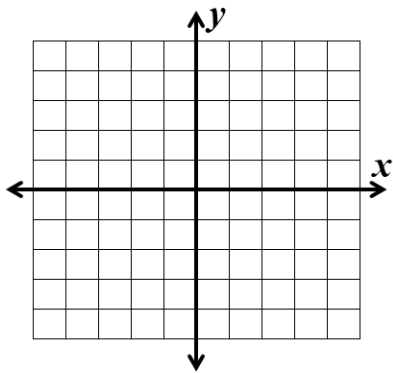
Answer: _____

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



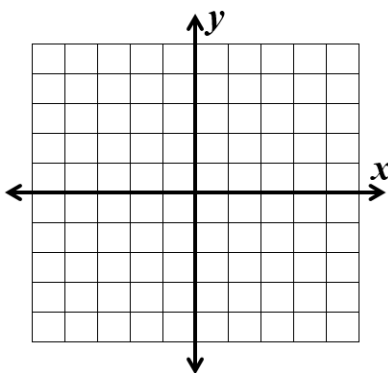
Answer: _____

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



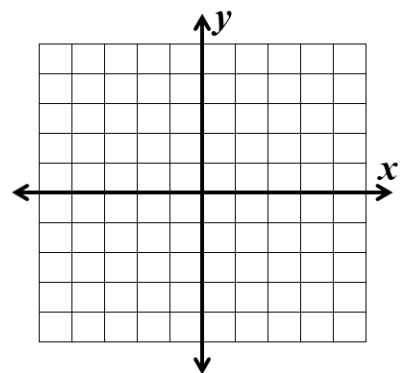
Answer: _____

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



Answer: _____

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



Answer: _____

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: _____

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

Answer: _____

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

Answer: _____

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

Answer: _____

17. Solve
 $-5x - 8(2x - 8) = -104$

18. Simplify
 $3 - 6(8v - 2)$

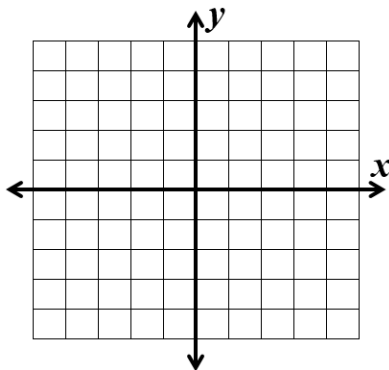
19. Simplify
 $7(b + 2) + b$

3.3 Graphing Systems of Equations

Wrap up

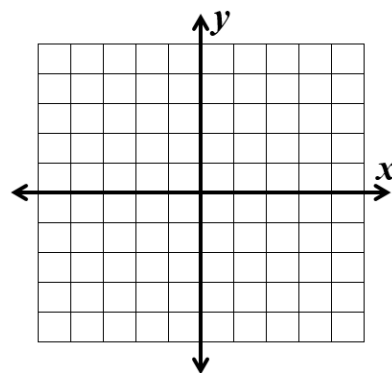
Practice check: The next two questions are just like the practice, but we provide no answers. If you can't do these problems, then you're definitely not ready for a Mastery Check!

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



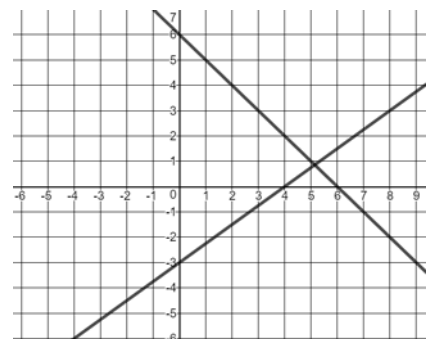
Answer: _____

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



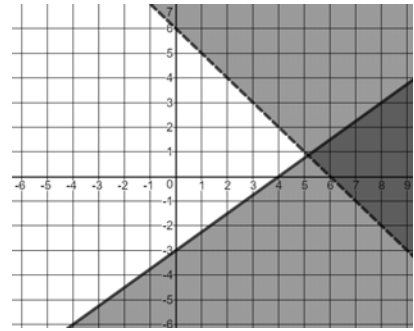
Answer: _____

22. Estimate the solution to the system of equations whose graph is shown to the right.



23. Write two equations for the system of equations, and find the solution to the system with a graphing calculator.

24. Write a system of inequalities that represents the shaded region of the graph shown to the right.



Kelly's Cabbies is competing against Uber for a share of the cab service market. Mr. Kelly charges a \$6 fee plus \$0.50 per mile. Uber is charging \$0.80 per mile but does not charge a fee.

- Write a cost equation for each cab service in terms of the number of miles.
- Define your variables from part *a*.
- Completely label your graph.
- Graph both equations.
- For what trip distances should a customer use Kelly's Cabbies?
- For what trip distances should a customer use Uber?

