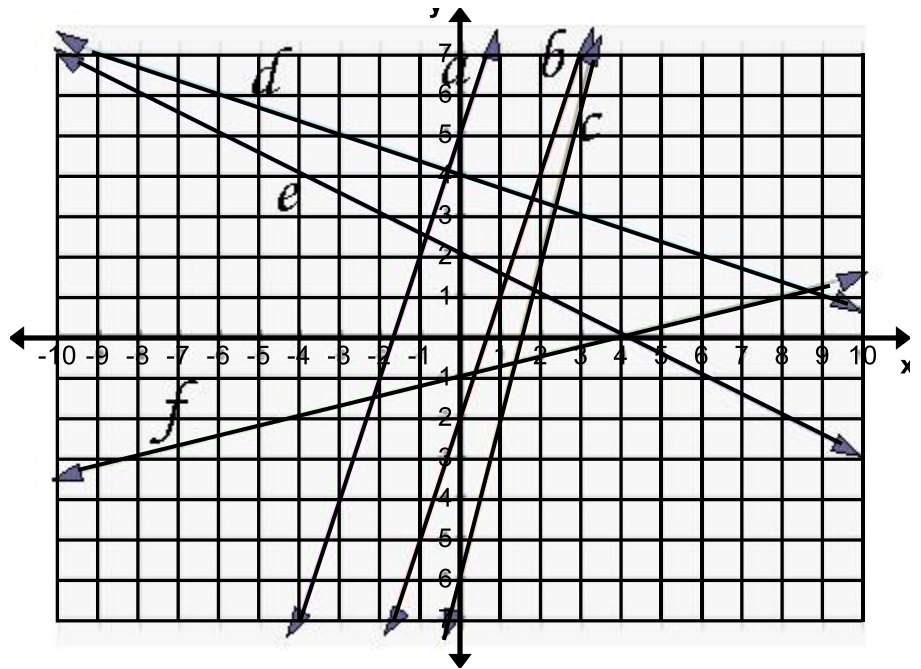


Unit 4 Review: Systems of Equations & Inequalities

- Which two lines have no common solution?
- Which two lines have the point (4,0) as the common solution?
- Which line matches the equation $y = 4x - 6$?
- True or False?
Lines d and e have no solution.



For # 5-7, tell which method, graphing, substitution, or elimination/combination you would use to solve each system. **Explain why, but do not actually solve the system.**

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

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

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

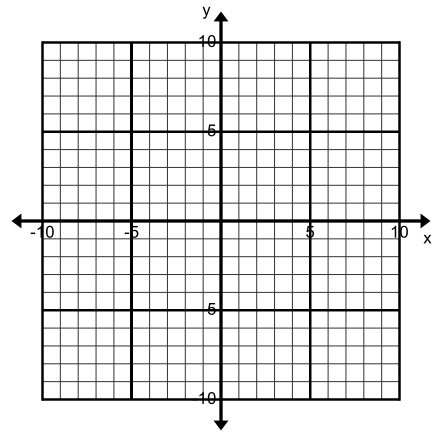


Solve the following systems using any method desired.

8. $\begin{cases} x + y = 7 \\ 6x + y = 2 \end{cases}$

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

10. Draw a system of equations with solution $(-2, 5)$.



Solve the following systems:

11.
$$\begin{cases} 6x + 6y = 6 \\ 2x + 2y = 2 \end{cases}$$

12.
$$\begin{cases} y = 3x - 1 \\ y = 3x + 5 \end{cases}$$

13.
$$\begin{cases} 3x - y = 4 \\ 2x + 2y = 24 \end{cases}$$

14.
$$\begin{cases} x = 2y - 5 \\ 3x + 2y = 1 \end{cases}$$

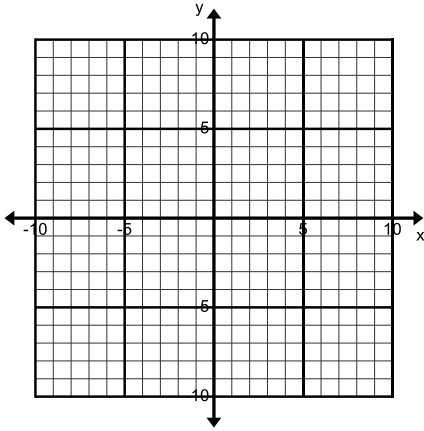
15. Joe buys 5 notebooks and 3 pens for \$10.80. Julia buys 8 notebooks and 3 pens for \$15.30. How much is a notebook? How much is a pen?

Define your variables.

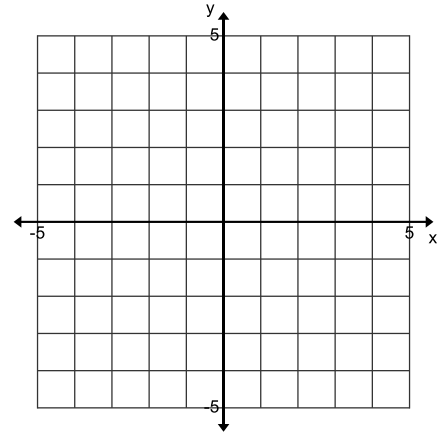
Write a system.

Solve the system:

16. Graph $y > 2x - 7$.
Give 2 possible solutions:

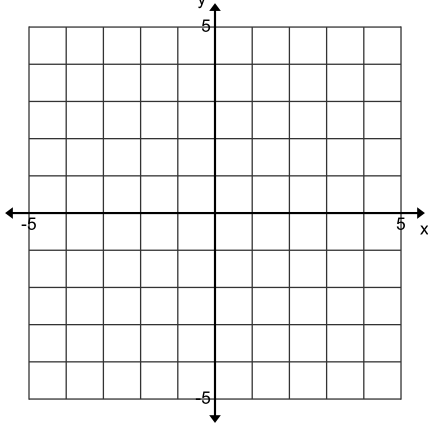


17. Graph $x - 3y > 6$.
Give 2 possible solutions:

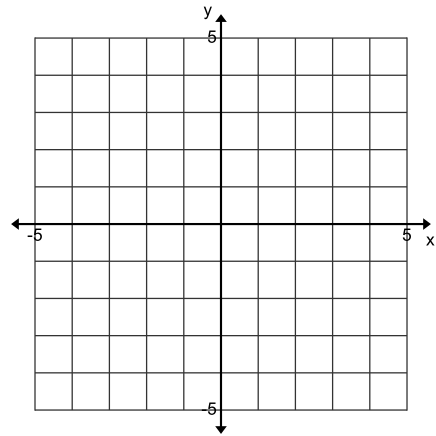


18. Graph $\begin{cases} y \leq 3x - 1 \\ y > -2x + 4 \end{cases}$

Give 2 possible solutions:



19. Graph $\begin{cases} y \leq 3 \\ y > -x + 3 \end{cases}$



Can $(-2, 2)$ be a solution to the system that you graphed? Explain why or why not.

20. Multiple Choice: Which set of equations is graphed on the graph at the right?

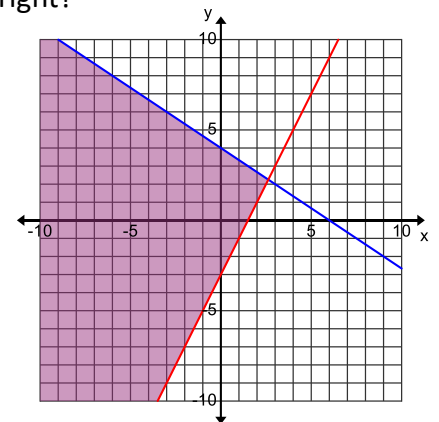
(both lines are solid)

a. $\begin{cases} -2x - 3y \leq -12 \\ 2x - y \geq 3 \end{cases}$

b. $\begin{cases} -2x - 3y \geq -12 \\ 2x - y \geq 3 \end{cases}$

c. $\begin{cases} -2x - 3y \leq -12 \\ 2x - y \leq 3 \end{cases}$

d. $\begin{cases} -2x - 3y \geq -12 \\ 2x - y \leq 3 \end{cases}$



Write a system of equations for each problem. Then solve the system.

21. Two numbers have a sum of 15. One number is 3 less than the other number. What is each number?

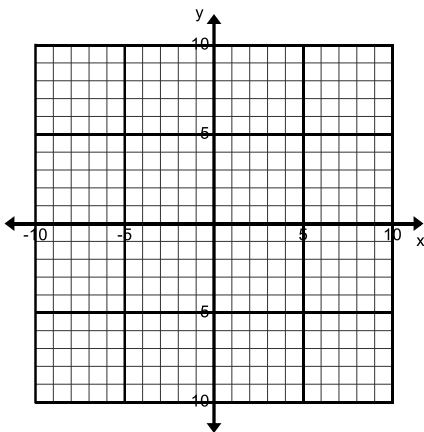
22. One week, Dwayne spent ten hours doing 8 math assignments and 8 geography assignments. The next week he finished 5 geography assignments and 6 math assignments in 7 hours. (He had a lot of late work to catch up on.) How long did it take him to do one geography assignment and how long did it take to do one math assignment?

23. Write a system of equations with one solution.

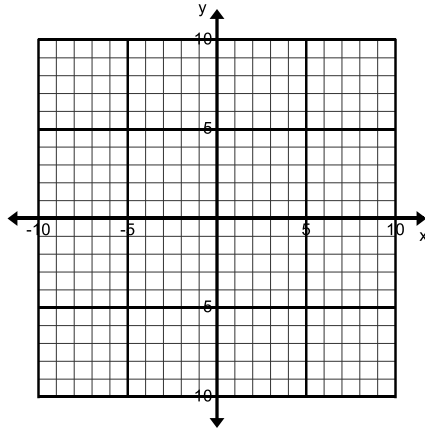
24. Write a system of equations with no solution.

25. Write a system of equations with infinitely many solutions.

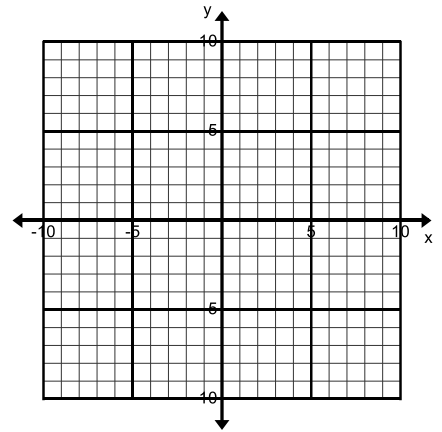
26. Graph $y = -x$



27. Graph $x = 4$



28. Graph $y = -6$



Challenge is the new comfort zone. We love a challenge.