

READY, SET, GO!

Name

Period

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READY

Topic: System of inequalities

For each of the systems of inequalities, determine if the given coordinates are solutions to the system. (Show your work.)

1. $\begin{cases} y \leq 3x - 5 \\ y \geq x + 2 \end{cases}$	2. $\begin{cases} y > -2x + 9 \\ y \geq 5x - 6 \end{cases}$	3. $\begin{cases} y < -\frac{1}{2}x + 9 \\ y > 6x - 10 \end{cases}$
a. (6, 10)	a. (-2, -5)	a. (-2, -5)
b. (1, 4)	b. (-1, 12)	b. (7, 3)
c. (8, 15)	c. (5, 0)	c. (-8, 10)

SET

Topic: Determining the number of solutions in a system of equations

Write each equation in slope-intercept form. Based on slope-intercept form of the equations determine whether the system of equations has zero, one, or infinitely many solutions. How do you know?

4. $3x - 4y = 13$ $y = -3x - 7$	5. $3x - 3y = 3$ $x - y = 1$	6. $0.5x - y = 30$ $0.5x - y = -30$	7. $4x - 2y = -2$ $3x + 2y = -12$
How many solutions?	How many solutions?	How many solutions?	How many solutions?
How do you know?	How do you know?	How do you know?	How do you know?

Solve each system. Write your solution as an ordered pair or indicate if it has no solutions or infinitely many solutions.

8. $\begin{cases} x + 4y = 6 \\ x + y = 3 \end{cases}$

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

10. $\begin{cases} y = 2x + 1 \\ 2x - y + 1 = 0 \end{cases}$

$$11. \begin{cases} 4y - 5x = 9 \\ x - 4y = 11 \end{cases}$$

$$12. \begin{cases} y = x - 1 \\ -x + y = 4 \end{cases}$$

$$13. \begin{cases} -2x + 5y = -1 \\ 3x + 2y = 11 \end{cases}$$

$$14. \begin{cases} -3x + 4y = 12 \\ 2x + y = -8 \end{cases}$$

$$15. \begin{cases} 9x - 3y = 3 \\ 3x + 8y = -17 \end{cases}$$

$$16. \begin{cases} -7x + y = -2 \\ 7x - y - 2 = 0 \end{cases}$$

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

$$18. \begin{cases} 2y = 2x - 2 \\ -\frac{1}{2}x + \frac{1}{2}y = 1 \end{cases}$$

$$19. \begin{cases} -2y = 4x + 2 \\ 8x - 4y = -4 \end{cases}$$

$$20. \begin{cases} x + y = 2x + 5 \\ x + y = 6y - 9 \end{cases}$$

$$21. \begin{cases} 5x = -y \\ 5x + 2y = 30 \end{cases}$$

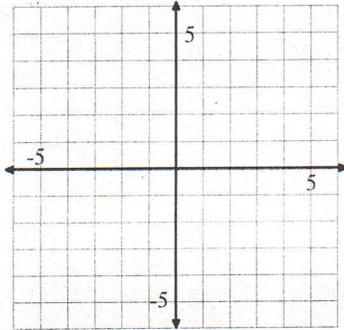
$$22. \begin{cases} 3x + 8y = 9y - 6 \\ 9x - 3y = 3 \end{cases}$$

GO

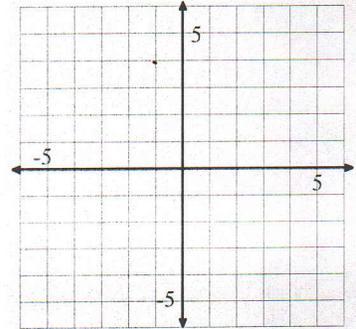
Topic: graphing two variable inequalities

Graph the following inequalities. Justify the region you shade by showing at least one point in the region as being a solution to each inequality.

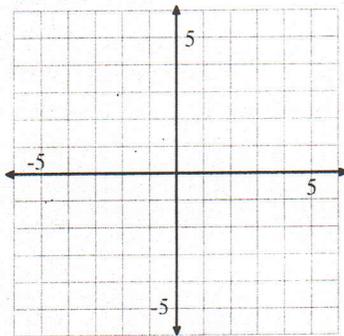
23. $3x - 4y \geq 12$



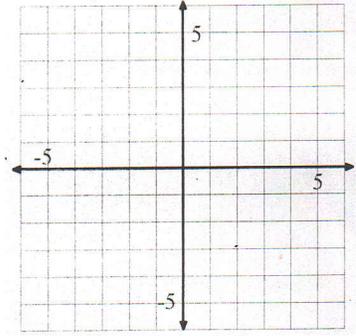
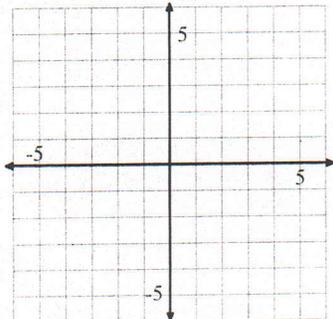
24. $x + 6y < 6$



25. $6x + 5y > 1$



26. $x - \frac{1}{2}y \geq 3$

27. On the same set of axes graph
 $y < x + 2$ and $y > x + 5$.Do the solution sets of these two
inequalities share any points?
Explain.28. On the same set of axes graph
 $y < x + 2$ and $y < x + 5$.Do the solution sets of these two
inequalities share any points?
Explain.