

Ready, Set, Go!

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Ready

Topic: Systems of Inequalities

For each of the systems of inequalities, determine if the given coordinates are solutions to the system.

- | | | | | | |
|----|---|----|--|----|--|
| 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: Determine the number of solutions in a system of equations

Express each equation in slope-intercept form. *Without graphing*, state whether the system of equations has zero, one or infinite solutions. How do you know?

4.
$$\begin{cases} 3x - 4y = 13 \\ y = -3x - 7 \end{cases}$$
5.
$$\begin{cases} 3x - 3y = 3 \\ x - y = 1 \end{cases}$$
6.
$$\begin{cases} 0.5x - y = 30 \\ 0.5x - y = -30 \end{cases}$$
7.
$$\begin{cases} 4x - 2y = -2 \\ 3x + 2y = -12 \end{cases}$$

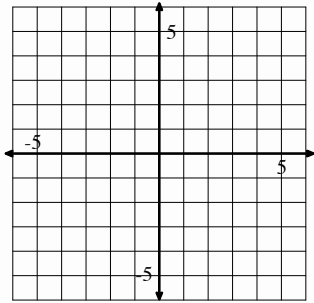


Go

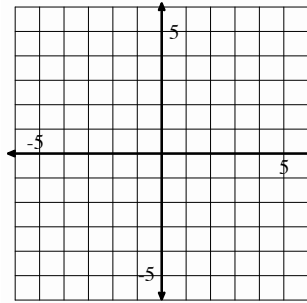
Topic: Graph two variable inequalities

Graph the following inequalities. Be sure to label your axes and scale. Justify the region you shade by showing three points in the region as being solutions to the problem. Show a point you have tested to prove your shaded region is accurate.

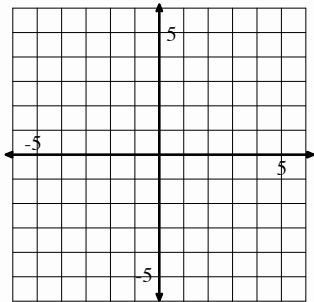
8. $3x - 4y \geq 12$



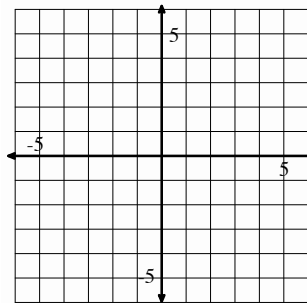
9. $x + 6y < 6$



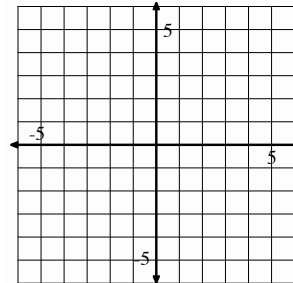
10. $6x + 5y > 1$



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



12. On the same set of axes, graph $y < x + 2$ and $y > x + 5$.
What values do these two have in common?



Need help? Check out these related videos

Testing a solution to an equation

<http://www.khanacademy.org/math/algebra/systems-of-eq-and-ineq/v/testing-a-solution-for-a-system-of-equations>

Number of solutions

<http://www.khanacademy.org/math/algebra/systems-of-eq-and-ineq/v/special-types-of-linear-systems>

Solving inequalities

<http://www.khanacademy.org/math/algebra/solving-linear-inequalities/v/solving-inequalities>

