5.2

READY, SET, GO! **Name** **Period** **Date**

READY

Topic: Determining if given values are solutions to a two variable equation.

Identify which of the given points are solutions to the following linear equations.

1. $3x + 2y = 12$
   a. $(2, 4)$
   b. $(3, 2)$
   c. $(4, 0)$
   d. $(0, 6)$

2. $5x - y = 10$
   a. $(2, 0)$
   b. $(3, 0)$
   c. $(0, -10)$
   d. $(1, 1)$

3. $-x + 6y = 10$
   a. $(-4, 1)$
   b. $(-22, -2)$
   c. $(2, 2)$
   d. $(10, 0)$

Find the value that will make each ordered pair be a solution to the given equation.

4. $x + y = 6$
   a. $(2, \_\_\_\_)$
   b. $(0, \_\_\_\_)$
   c. $(\_\_\_\_, 0)$

5. $2x + 4y = 8$
   a. $(2, \_\_\_\_)$
   b. $(0, \_\_\_\_)$
   c. $(\_\_\_\_, 0)$

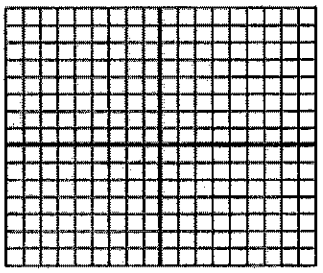
6. $3x - y = 8$
   a. $(2, \_\_\_\_)$
   b. $(0, \_\_\_\_)$
   c. $(\_\_\_\_, 0)$

SET

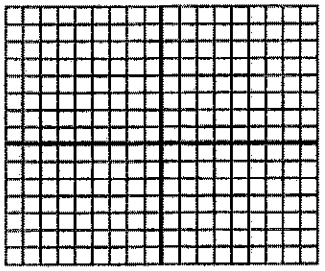
Topic: Graphing linear inequalities

Graph the following inequalities on the coordinate plane. Name one point that is a solution to the inequality and one point that is not a solution. Show algebraically and graphically that your points are correct.

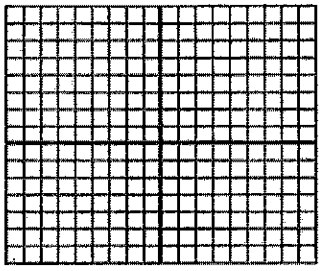
7. $y \leq 3x + 4$



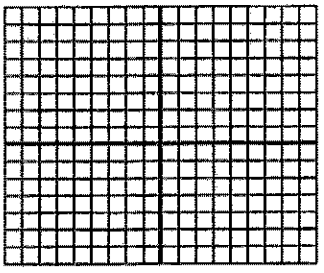
8. $y < 7x - 2$



9. $y > \frac{-3}{5}x + 2$



10. $y \geq -6$



mathematics vision project

5.2

GO

Topic: Solving inequalities

Follow the directions for each problem below. (Show your work!)

11. $10 - 3x < 28$

    a) Solve for x. Then graph the solution on the number line.

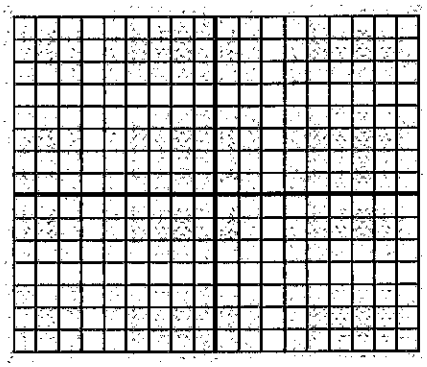
    b) Select an x-value from your graph of the solution of the inequality. Replace x in the original inequality $10 - 3x < 28$ with your chosen value. Does the inequality hold true?

    c) Select an x-value that is outside of the solution set on your graph. Replace x in the original inequality $10 - 3x < 28$ with your chosen value. Does the inequality still hold true?

12. $4x - 2y \geq 6$

    a) Solve for y.

    b) Rewrite your inequality as an equation. In other words, your solution will say y = , instead of y ≥ or y ≤. When you use the equal sign, the expression represents the equation of a line.

    c) Graph the line that goes with your equation.

    d) Name the y-intercept.

    e) Identify the slope.

    f) Select a point that is above the line. (,)

    g) Replace the x-value and y-value of your chosen point in the inequality $4x - 2y \geq 6$.

    h) Is the inequality still true?

    i) Select a point that is below the line. (,)

    j) Replace the x-value and y-value of your chosen point in the inequality $4x - 2y \geq 6$.

    k) Is the inequality still true?

    l) Explain which side of the line should be shaded.

    m) Decide whether the line should be solid or dotted. Justify your decision.