

READY, SET, GO!

Name

Key

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, 4)

b. (0, 6)

c. (6, 0)

5. $2x + 4y = 8$

a. (2, 1)

b. (0, 2)

c. (4, 0)

6. $3x - y = 8$

a. (2, -2)

b. (0, -8)

c. (8/3, 0)

SET

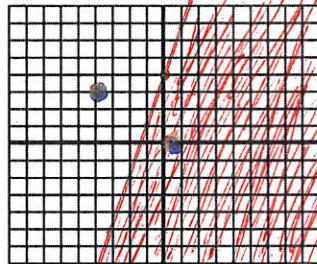
Topic: Graphing linear inequalities

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. $y \leq 3x + 4$

$(0, 0) = \text{True}$

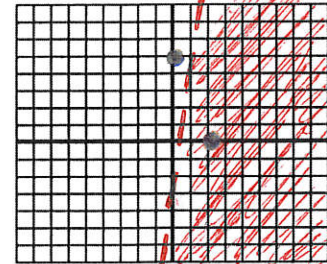
$(-4, 3) = \text{False}$



8. $y < 7x - 2$

$(2, 0) = \text{True}$

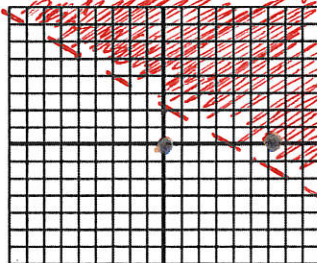
$(0, 5) = \text{False}$



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

$(0, 0) = \text{False}$

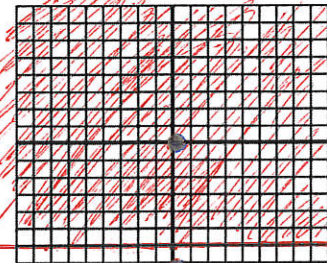
$(6, 0) = \text{True}$



10. $y \geq -6$

$(0, 0) = \text{True}$

$(0, -7) = \text{False}$



GO

Topic: Solving inequalities

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

11. $10 - 3x < 28$ $x > -6$

- 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?

$$x = 1 \quad 7 < 28 \quad \text{inequality holds true}$$

- 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?

$$x = -10 \quad 40 \not< 28 \quad \text{inequality is false}$$

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

- a) Solve for y.
- $y \leq 2x - 3$

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

$$y = 2x - 3$$

- c) Graph the line that goes with your equation.

- d) Name the y-intercept.
- $(0, -3)$

- e) Identify the slope.
- $m = 2$

- f) Select a point that is above the line.
- $(1, 1)$

- g) Replace the x-value and y-value of your chosen point in the inequality
- $4x - 2y \geq 6$
- .
- $4(1) - 2(1) \geq 6$

- h) Is the inequality still true?
- $2 \not\geq 6$
- No**

- i) Select a point that is below the line.
- $(0, -5)$

- j) Replace the x-value and y-value of your chosen point in the inequality
- $4x - 2y \geq 6$
- .
- $4(0) - 2(-5) \geq 6$

- k) Is the inequality still true?
- $10 \geq 6$
- Yes**

- l) Explain which side of the line should be shaded.
- Shade below the line**

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

The line should be solid because all the points on the line satisfy the inequality.

