Monday, September 23, 2019 7:46 AM

# Warm Up

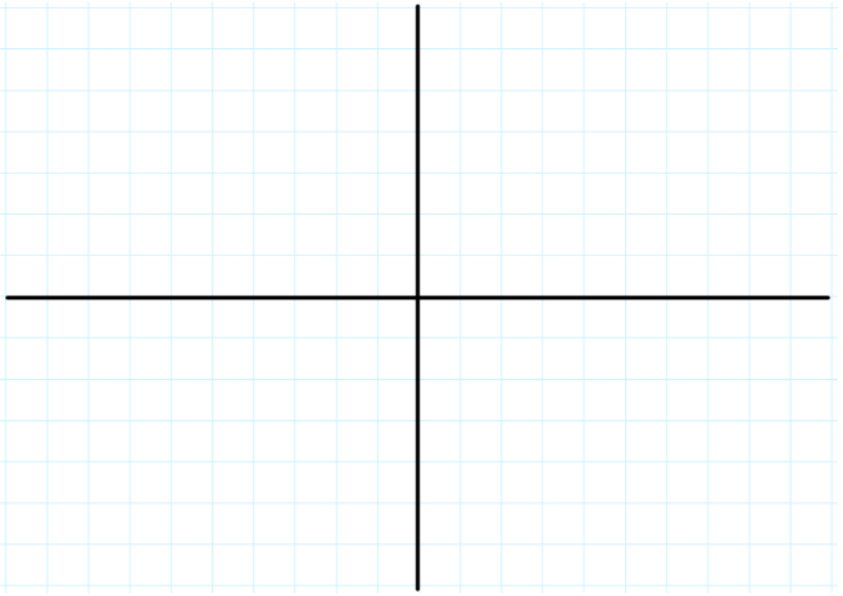
Graph the following lines

$y = 3x + 2$

$y = \frac{1}{3}x - 3$

$y = 0$

$y = x$



# Essential Question

How does the graph of a linear inequality in two variables help you identify the solutions of the inequality?

## Needed Vocab:

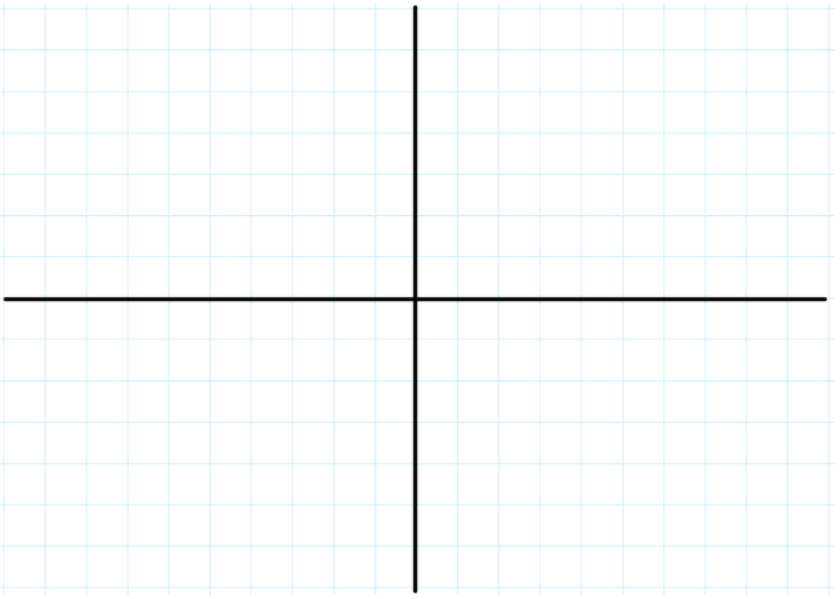
- **Linear inequality in two variables**
- **Solution of a linear inequality in two variables**

## Goal: "I can. . .

**Graph solution to linear inequalities in two variables."**

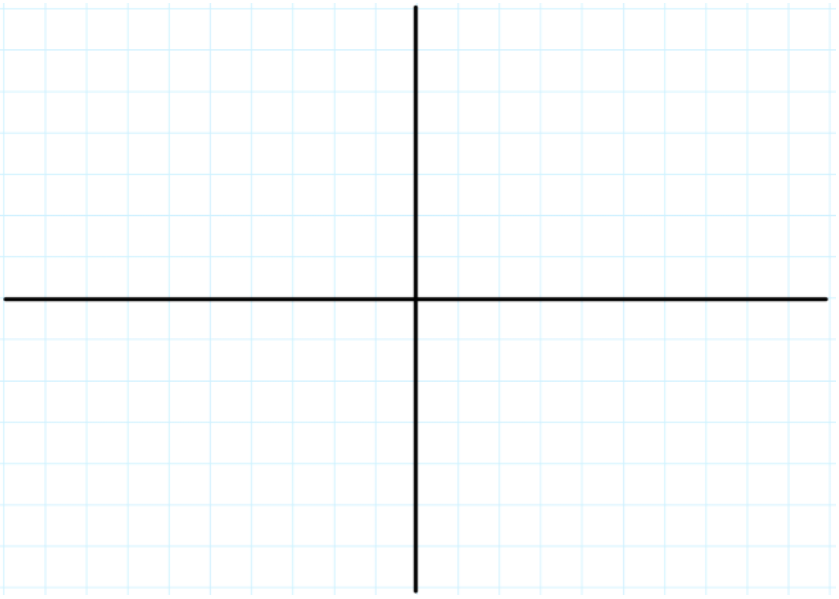
## Example 1

What is/are the possible solutions to $y \leq x - 1$?



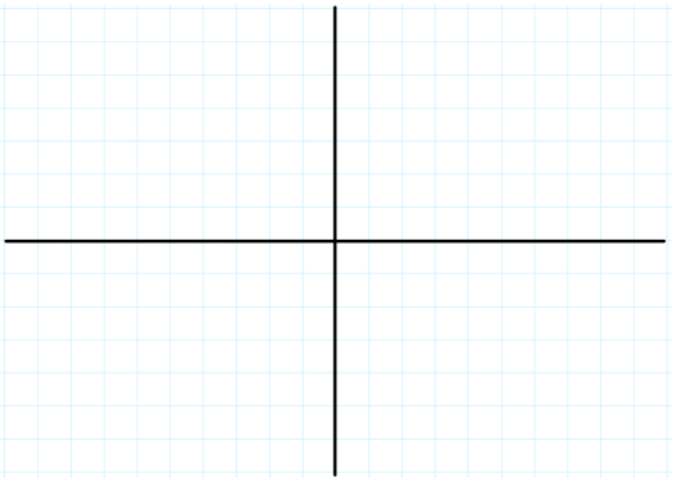
A linear inequality in two variables looks like an equation in the form of y=mx+b but instead has one of the four inequality symbols. The solution of a linear inequality in two variables is all ordered pairs (x, y) that make the inequality true.

What are the solutions of the inequality $y > x - 1$?

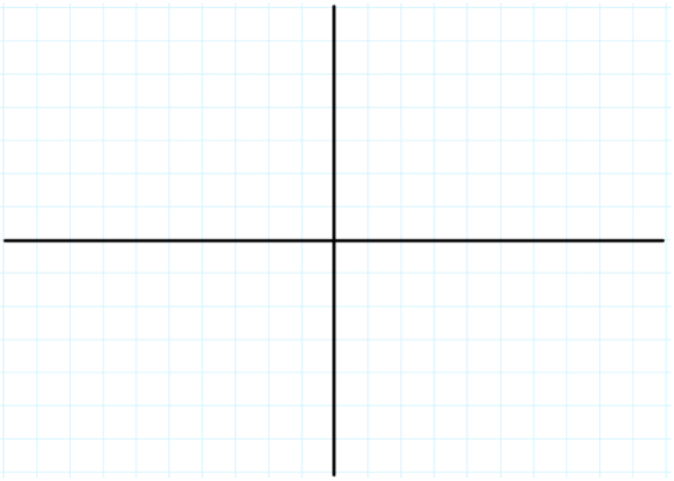


Graph the solutions to the following inequalities.

$y < -3x + 5$



$y \geq -3x + 5$



## Example 2

**The Science Club sells T-shirts and key chains to raise money. How many T-shirts and key chains could they sell to meet or exceed their goal?**

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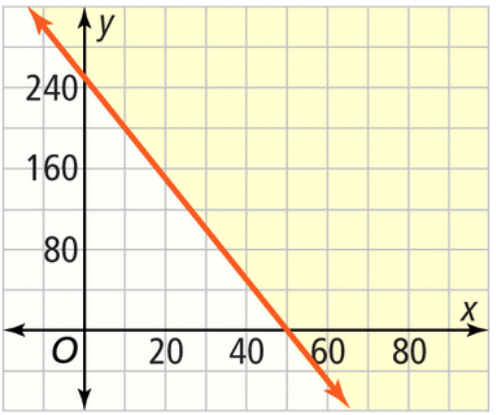
**2.** Will the Science Club meet their goal if they sell 30 T-shirts and 90 key chains? Explain in terms of the graph of the inequality.

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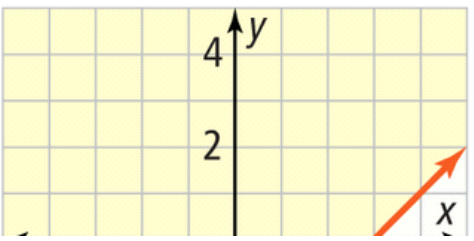
## Example 3

Write the inequality shown in the graph.



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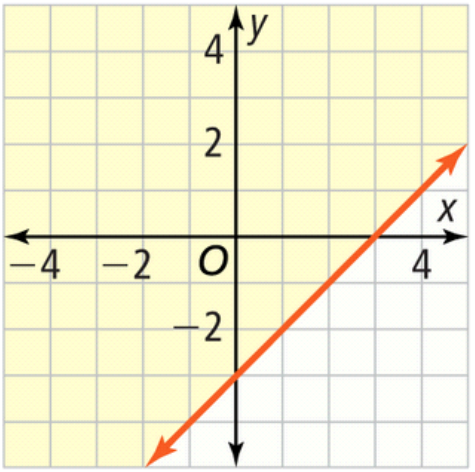
Write the inequality shown in the graph.

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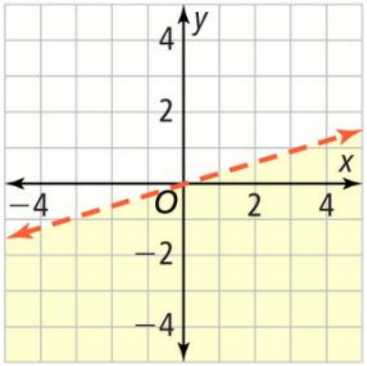
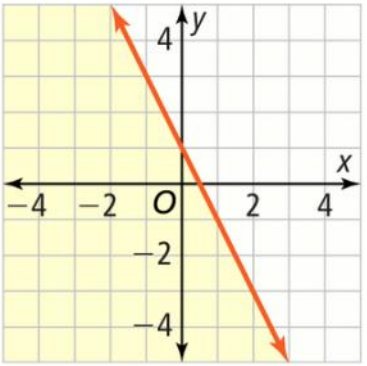
Write the inequality shown in the graphs.

**a.**




**b.**

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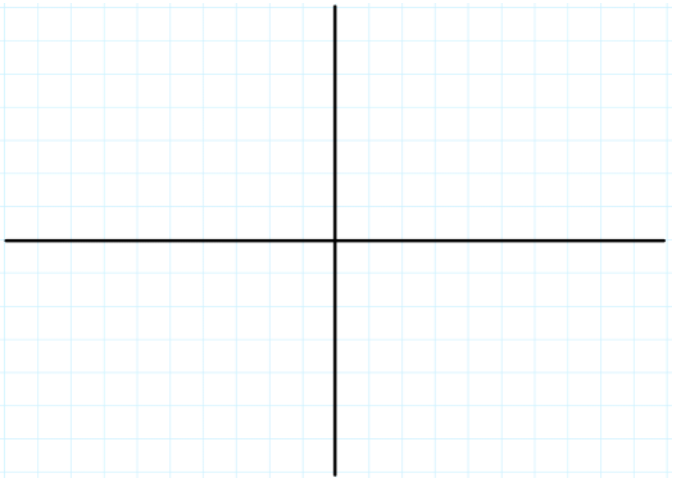
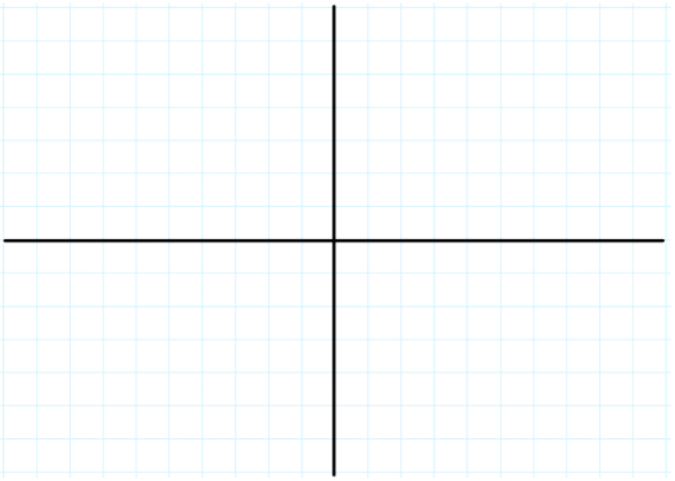
## Example 4

What is the graph of the following inequalities?

A. $x \geq 3$

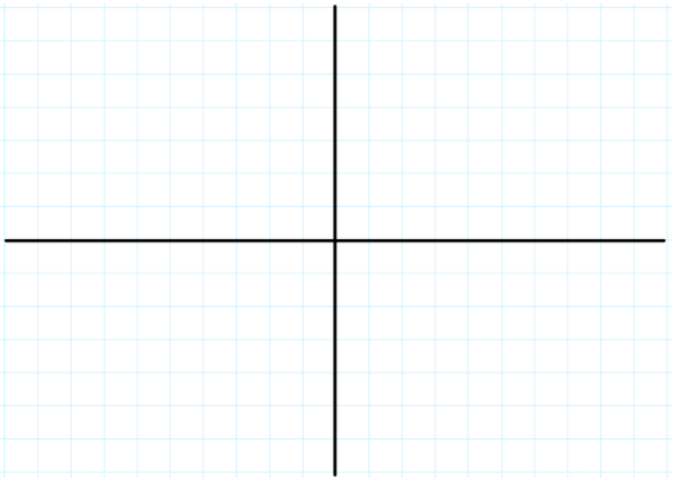
B. $y < 2$



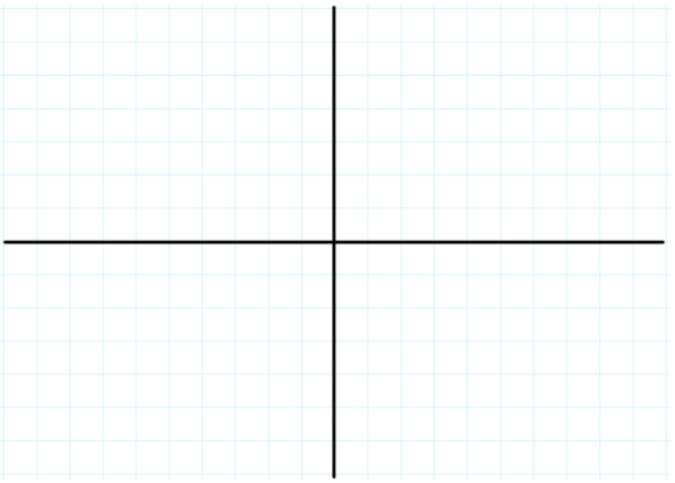


Graph the following inequalities.

A. $y > -2$



B. $x \leq 1$



# Homework

## Pg. 168

# 10, 16-27, 31, 32