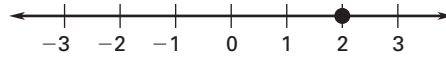




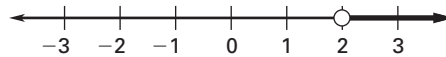
Objective 4 TEKS A.7.B Review

A.7.B Investigate methods for solving linear equations and inequalities using concrete models, graphs, and the properties of equality, select a method, and solve the equations and inequalities.

You can graph the solution sets of linear equations and inequalities in one variable on a number line.



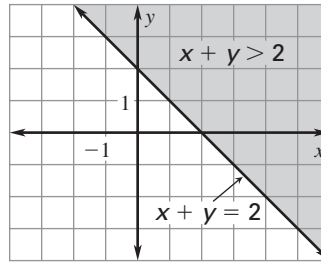
Graph of $x = 2$



Graph of $x > 2$

You can graph the solution sets of linear equations and inequalities in two variables on the coordinate axes.

The graph of $x + y > 2$ is shown at the right.



EXAMPLE

What is the solution of $y - 3x < -1$?

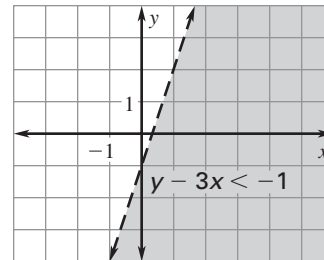
The solutions of $y - 3x < -1$ lie in the region of the coordinate plane where $y - 3x < -1$.

First write $y - 3x = -1$ in slope intercept form. Then graph the line as a dashed boundary line.

$$y - 3x = -1$$

$$y = 3x - 1$$

In the region below the dashed line, $y < 3x - 1$. Shade this region.



The shaded region is the graph of $y - 3x < -1$. The solution is the shaded region.

YOU DO IT

What is the solution of $2x - 3 \geq 5x - 6$?

$$2x - 3 \geq 5x - 6$$

Solve this inequality.

$$\underline{-3x} - 3 \geq -6$$

What did you subtract from both sides? 5x

$$-3x \geq \underline{-3}$$

What did you add to both sides? 3

$$x \underline{\leq} 1$$

What happens to the inequality sign when you divide both sides by a negative number? The direction of the sign is reversed.



Graph the solution set.