



Math Virtual Learning

Algebra 1 S-1

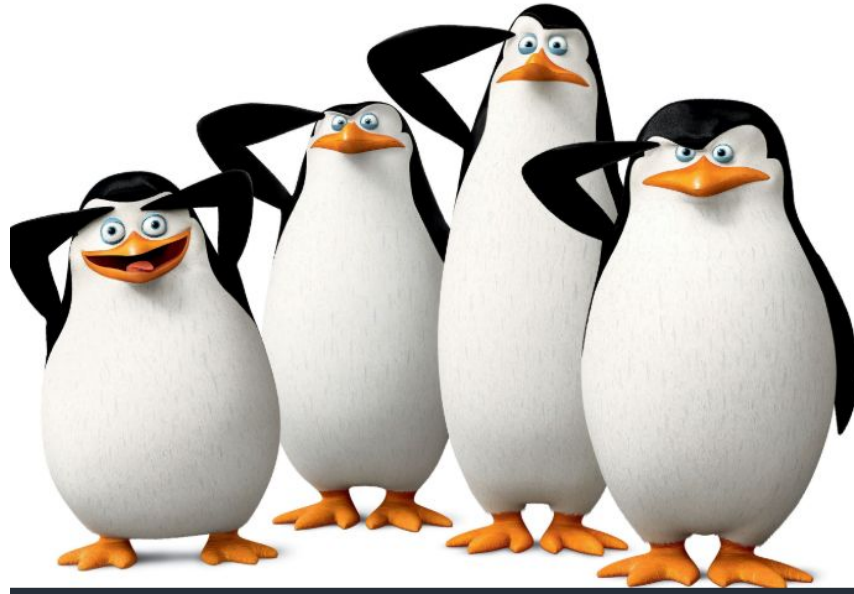
May 6, 2020



Grade/Course
Lesson: May 6, 2020

Objective/Learning Target:

Students will determine if an ordered pair is a part of the solution set in a system of inequalities.



Brainstarter

Use the desmos to find the intersection of the following inequalities.



What patterns did you see?

$$\begin{aligned}7x + 4y &> 16 \\ -x + 4y &> -16\end{aligned}$$

$$\begin{aligned}3x + 2y &< 6 \\ y &< 3\end{aligned}$$


$$\begin{aligned}y &> -6x - 3 \\ y &< -x + 2\end{aligned}$$

"Remember
Take Notes"

Let's Get Started

Watch Video 1:



A cartoon penguin with a white body, black wings and back, and a black cap. It has large blue eyes and an orange beak. It is standing and looking towards the right. A thought bubble is connected to its head by three small circles. The thought bubble contains text.

Remember the ordered pair
has to make both
inequalities true to be a
solution to the system

$$x + 2y < 2$$

$$6x + 2y > -6$$

Substitute the ordered pair into the
both inequalities

(1, -1)



$$x + 2y < 2$$

$$1 + 2(-1) < 2$$

$$1 + -2 < 2$$

$$-1 < 2$$



$$6x + 2y > -6$$

$$6(1) + 2(-1) > -6$$

$$6 + -2 > -6$$

$$4 > -6$$





The ordered pair $(1, -1)$ make both inequalities true thus it **is** a solution to the system!

Let's try another ordered pair.
(2, 4)



$$\begin{aligned}x + 2y &< 2 \\ 2 + 2(4) &< 2 \\ 2 + 8 &< 2 \\ 10 &< 2\end{aligned}$$



$$\begin{aligned}6x + 2y &> -6 \\ 6(2) + 2(4) &> -6 \\ 12 + 8 &> -6 \\ 20 &> -6\end{aligned}$$

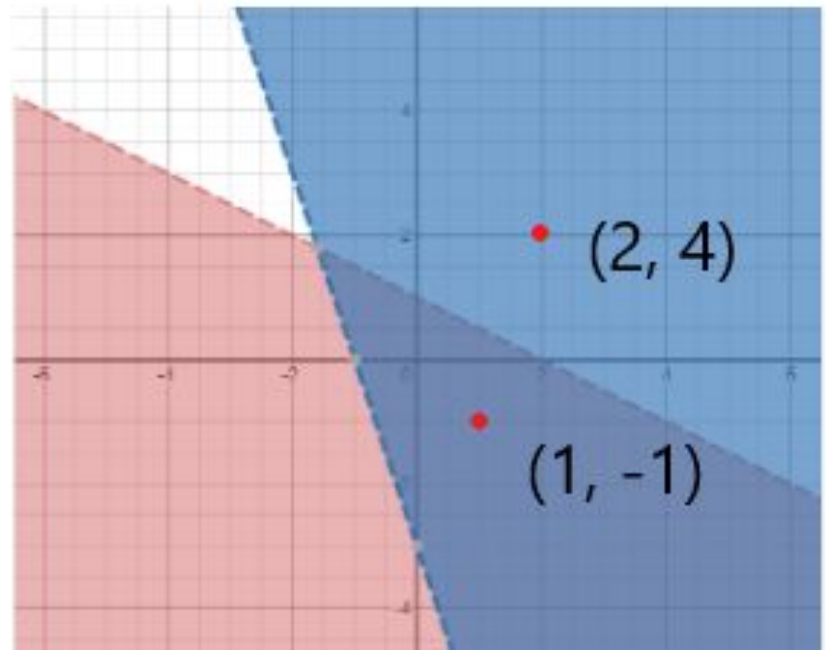


The ordered pair $(2, 4)$ makes only one of the inequalities true thus it is **not** solution to the system!





The first ordered pair $(1, -10)$ **is** in the overlapping shading thus it **is** a solution.
The first ordered pair $(2, 4)$ **is not** in the overlapping shading thus it **is not** a solution.





Now it's your turn!

$$1). \begin{aligned} 5x + y &> 3 \\ -2y &< 4 \end{aligned}$$

(2, 2)

$$2). \begin{aligned} -4x + y &> -3 \\ 4x + 2y &> 6 \end{aligned}$$

(2, 2)

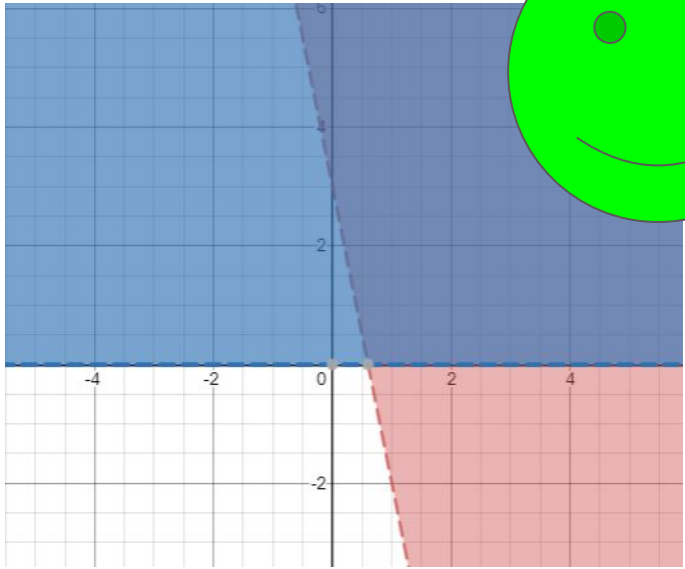
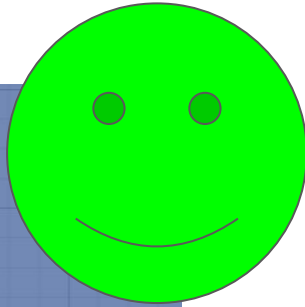
$$3). \begin{aligned} 4x - 3y &< 9 \\ x + 3y &> 6 \end{aligned}$$

(2, 2)

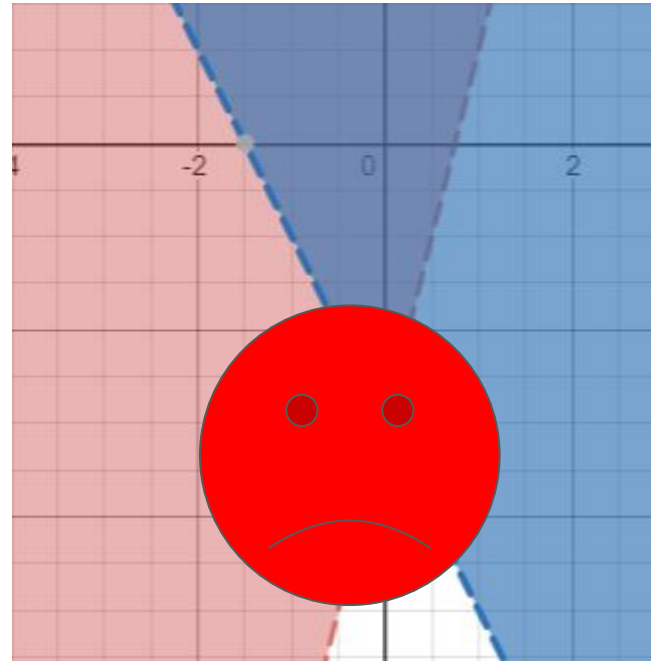
Answer Key:

Once you have completed the problems, check your answers here.

1). $5x + y > 3$
 $-2y < 4$



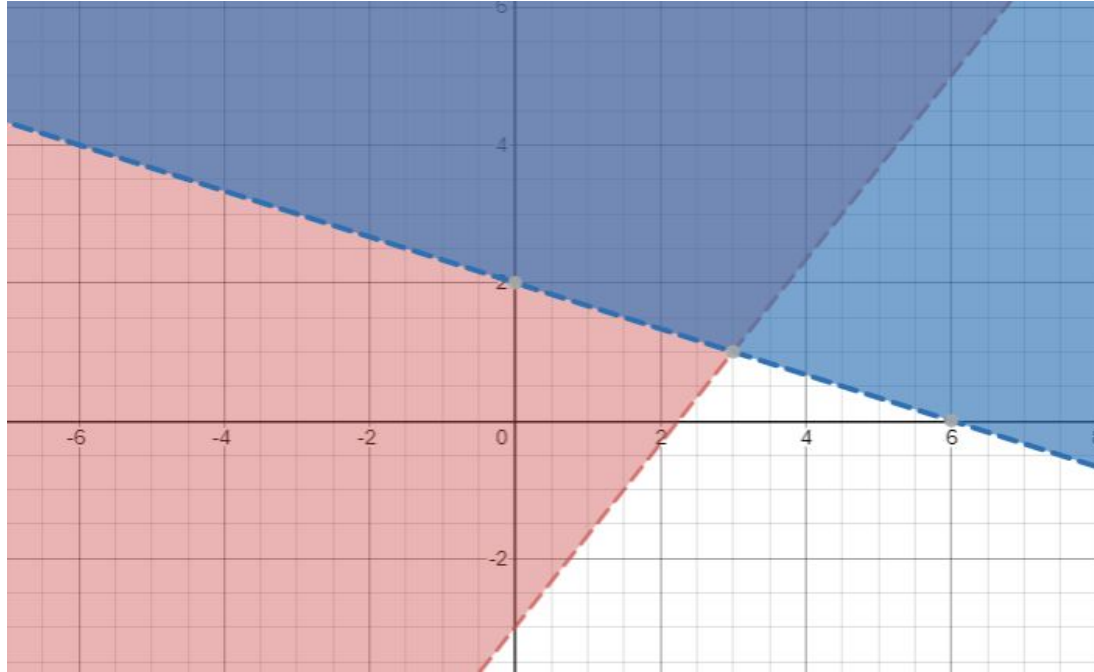
2). $-4x + y > -3$
 $4x + 2y > 6$



Answer Key:

Once you have completed the problems, check your answers here.

3). $4x - 3y < 9$
 $x + 3y > 6$



Additional Practice:

Click on the links below to get additional practice and to check your understanding!

[Testing solutions in a system of Inequalities.](#)

