



# Solving Systems by Graphing

## Student Activity

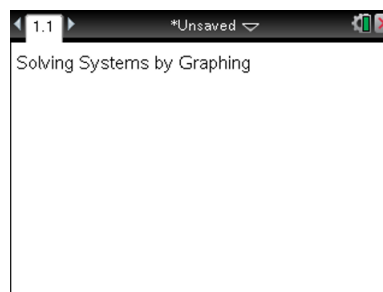
Name \_\_\_\_\_

Class \_\_\_\_\_

Open the TI-Nspire document

*Solving\_Systems\_by\_Graphing.tns.*

In this activity, you will explore moving a point to illustrate solving systems of linear equations graphically.



Move to page 1.2.

Press **ctrl** ► and **ctrl** ◀ to  
navigate through the lesson.

Questions 1–3 refer to the system of equations graphed in the TI-Nspire document:

$$f1(x) = x + 1$$

$$f2(x) = -x + 3$$

Move the point that is on the x-axis to the left or right as needed.

1. Move the point so that  $x = -2$  in both sets of coordinates. Is either of these ordered pairs a solution to the given system of equations? Justify your answer.
2. Move the point so that  $x = 3$  in both sets of coordinates. Is either of these ordered pairs a solution to the given system of equations? Justify your answer.
3. What is the solution to the system pictured? Explain how you know.



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Class \_\_\_\_\_

4. Jean told the class that she knew of another system that had the same solution as the system pictured in the graph. Her system is

$$f_1(x) = x + 1$$

$$f_3(x) = 4x - 2$$

Bryan argued that he thought that the system with the same solution as the system pictured in the graph was the following:

$$f_2(x) = -x + 3$$

$$f_4(x) = 2x$$

Who is right? Explain your reasoning.

5. Find the solution to the following system graphically. Show the necessary work to check the solution.

$$f_1(x) = x + 1$$

$$f_2(x) = -x - 3$$

6. Find the solution to the following system graphically. Show the necessary work to check the solution.

$$f_1(x) = -x + 3$$

$$f_2(x) = -x - 3$$

7. How does the solution to the system in problem 6 compare to the solution of the system in the previous problems? Justify your answer.