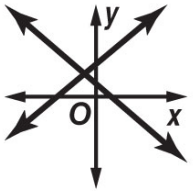
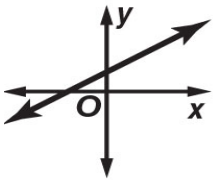
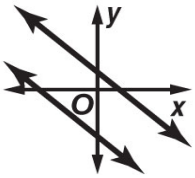
NAME _____ DATE _____ PERIOD _____

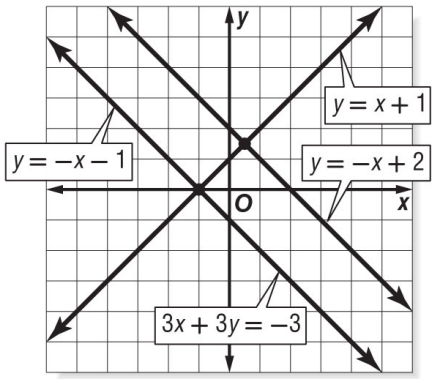
6-1 Notes

Graphing Systems of Equations

Possible Number of Solutions Two or more linear equations involving the same variables form a **system of equations**. A solution of the system of equations is an ordered pair of numbers that satisfies both equations. The table below summarizes information about systems of linear equations.

Graph of a System	intersecting lines 	same line 	parallel lines 
Number of Solutions			
Terminology			

Example: Use the graph at the right to determine whether each system is *consistent* or *inconsistent* and if it is *independent* or *dependent.*



a. $y = -x + 2$
$y = x + 1$

b. $y = -x + 2$
$3x + 3y = -3$

c. $3x + 3y = -3$
$y = -x - 1$

Exercises

Determine whether each system is *consistent* or *inconsistent* and if it is *independent* or *dependent.*

1. $y = -x - 3$
$y = x - 1$

2. $2x + 2y = -6$
$y = -x - 3$

3. $y = -x - 3$
$2x + 2y = 4$

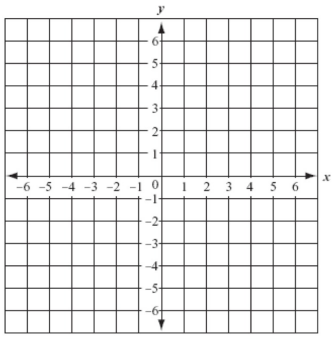
NAME _____ DATE _____ PERIOD _____

6-1 *Graphing Systems of Equations, cont.*

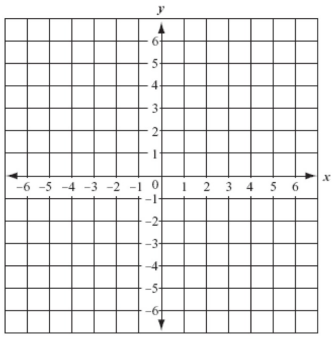
Solve by Graphing One method of solving a system of equations is to graph the equations on the same coordinate plane.

Example: Graph each system and determine the number of solutions that it has. If it has one solution, name it.

a. $x + y = 2$
$x - y = 4$



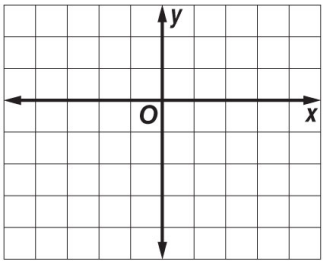
b. $y = 2x + 1$
$2y = 4x + 2$



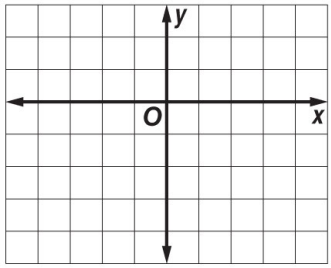
Exercises

Graph each system and determine the number of solutions it has. If it has one solution, name it.

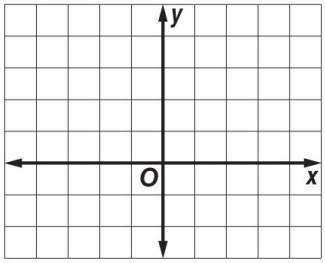
1. $y = -2$
$3x - y = -1$



2. $x = 2$
$2x + y = 1$



3. $y = \frac{1}{2}x$
$x + y = 3$



4. $2y = -4x + 4$
$y = -2x + 2$