

7.1

Solve Linear Systems by Graphing

Goal • Graph and solve systems of linear equations.

Your Notes

VOCABULARY

Systems of linear equations

Solution of a system of linear equations

Consistent independent system

SOLVING A LINEAR SYSTEM USING THE GRAPH-AND-CHECK METHOD

Step 1 _____ both equations in the same coordinate plane. For ease of graphing, you may want to write each equation in _____.

Step 2 Estimate the coordinates of the _____.

Step 3 _____ the coordinates algebraically by substituting into each equation of the original linear system.

Your Notes

Example 1

Use the graph-and-check method

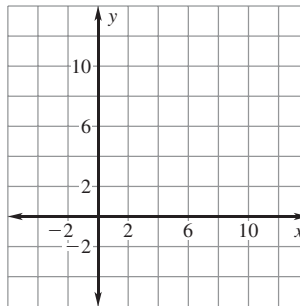
Solve the linear system: $3x + y = 9$ Equation 1

$x - y = 1$ Equation 2

Solution

1. _____ both equations.

To ease graphing, write each equation in slope intercept form.



2. **Estimate** the point of intersection. The two lines appear to intersect at (____, ____).

3. **Check** whether (____, ____) is a solution by substituting ____ for x and ____ for y in each of the original equations.

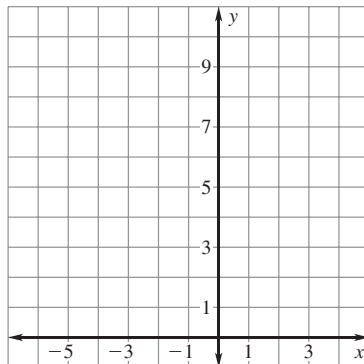
Equation 1	Equation 2
$3x + y = 9$	$x - y = -1$
_____ $\stackrel{?}{=} 9$	_____ $\stackrel{?}{=} -1$
_____ $= 9 \checkmark$	_____ $= -1 \checkmark$

Because (____, ____) is a solution of each equation in the linear system, it is a _____.

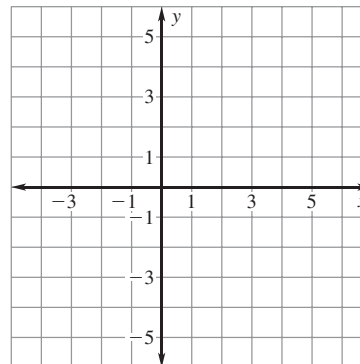
Your Notes

✓ Checkpoint Solve the linear system by graphing.

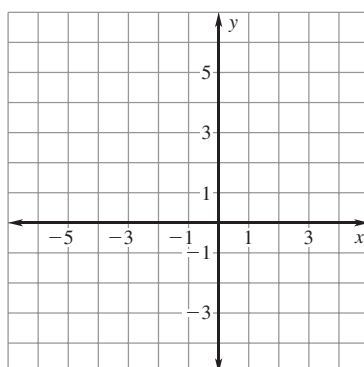
1. $2y + 4x = 12$
 $2x - y = -10$



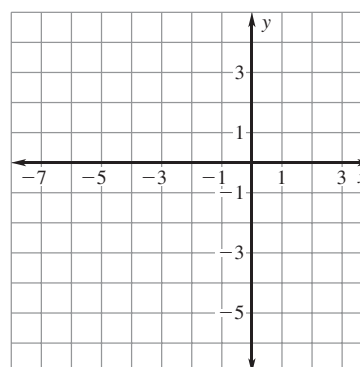
2. $4x + 2y = 6$
 $3x - 3y = 9$



3. $2y = 6x + 8$
 $4x + y = -3$



4. $y = 4x + 4$
 $2y = -3x - 14$



Homework