

5.1 Solving SYSTEMS OF LINEAR EQUATIONS by graphing

- Objectives:** 1. Write and solve systems of linear equations by graphing.
2. Solve real-life problems

A _____ of linear equations is a set of _____ linear equations.

A _____ of a system of linear equations is the _____ that is a solution of each equation in the system. You can see the solution in a graph because it will be the _____.

Reading

A system of linear equations is also called a *linear system*.

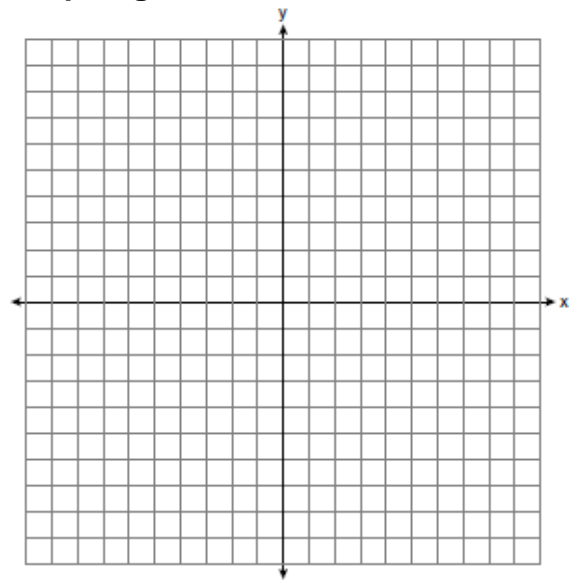
EXAMPLE 1: Solving a System of Linear Equations by Graphing

Solve each system of equations by graphing.

$$y = 2x + 5$$

$$y = -4x - 1$$

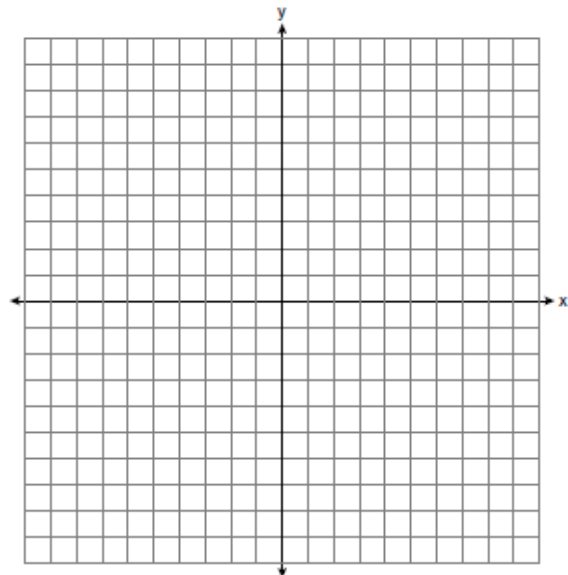
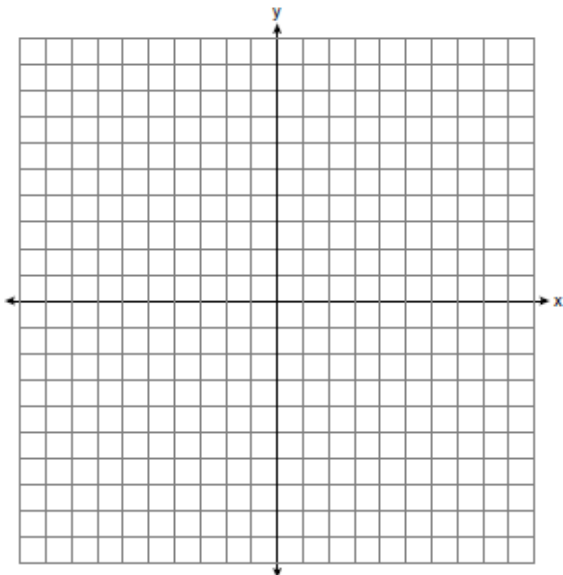
State the solution to the system:

**On Your Own:**

Solve the system of linear equations by graphing.

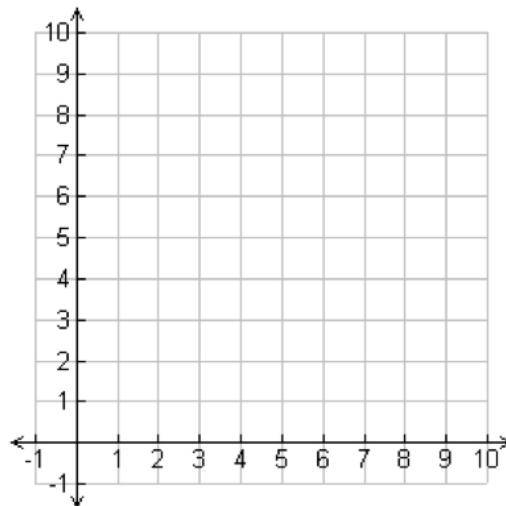
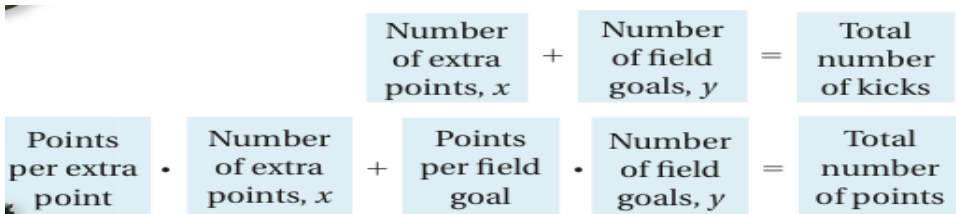
1. $y = x - 1$
 $y = -x + 3$

2. $y = -5x + 14$
 $y = x - 10$



EXAMPLE 2: Real-Life Application

A kicker on a football team scores 1 point for making an extra point and 3 points for making a field goal. The kicker makes a total of 8 extra points and field goals in a game. The kicker also scores a total of 12 points. Write and solve a system of linear equations to find the number, x , of extra points and the number, y , of field goals.



On your own:

Solve the system of linear equations by graphing

3. $x - y = 5$
 $x + y = 2$

4. $\frac{1}{2}x + y = -6$
 $6x + 2y = 8$

