

Chapter 7

Systems of Linear Equations & Inequalities

5.1 Solving systems of Linear Equations by graphing

System of Linear Equations

Solution of a System of Linear Equations

Solving a Linear System Using Graph-and-Check

1. Write each equation in a form that is easy to graph.
2. Graph both equations in the same coordinate plane.
3. Estimate the coordinates of the point of intersection.
4. Check the coordinates algebraically by substituting into each equation of the original linear system.

EXAMPLES

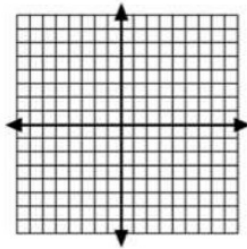
1. Decide whether the ordered pair is a solution of the system of linear equations.

a.
$$\begin{cases} -3x + y = 10 \\ 7x + y = 20 \end{cases}, (1, 13)$$

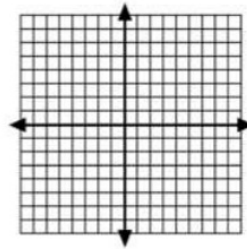
b.
$$\begin{cases} 2y + x = 13 \\ x + y = 7 \end{cases}, (6, 1)$$

2. Solve the linear system graphically.

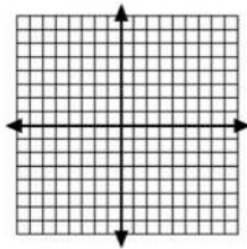
a. $x = 5$
 $y = -4$



b. $y = 3x + 8$
 $y = x - 2$



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



d. $5x + 4y = -12$
 $3x - 4y = -20$

