

Answers

Kuta Software - Infinite Algebra 1

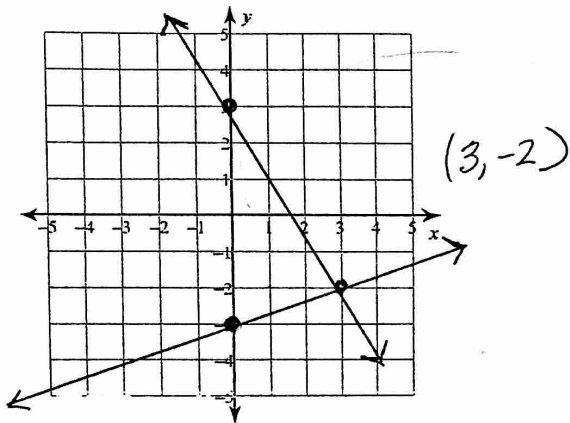
Name _____

Solving Systems of Equations by Graphing

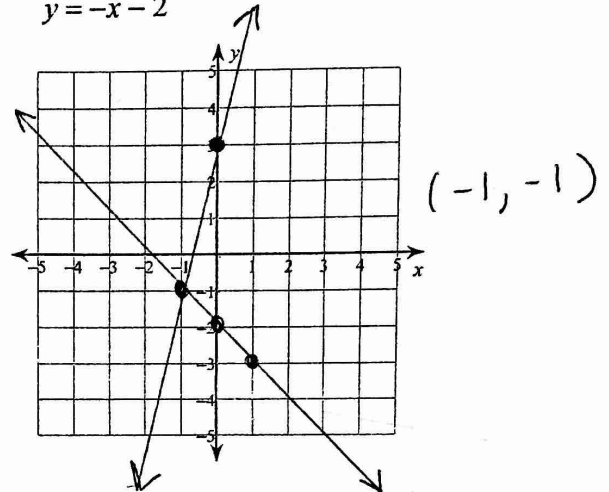
Date _____ Period _____

Solve each system by graphing.

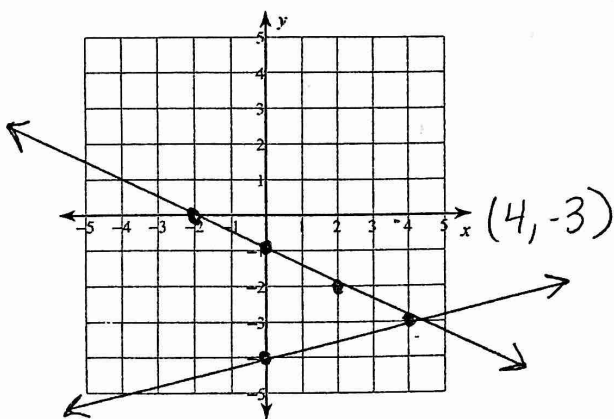
1) $y = -\frac{5}{3}x + 3$ — $m = -\frac{5}{3}$ y-int (0,3)
 $y = \frac{1}{3}x - 3$ — $m = \frac{1}{3}$ y-int (0,-3)



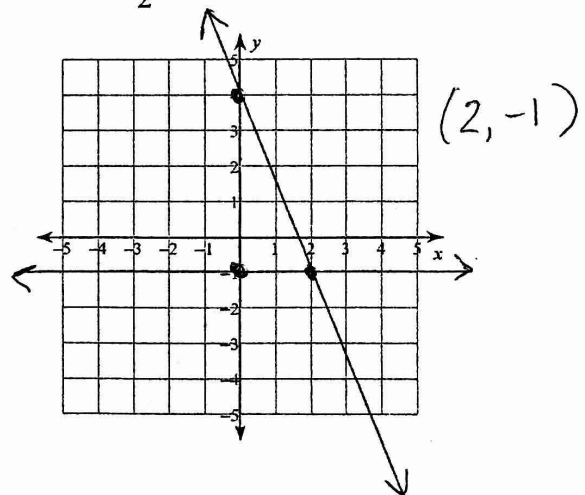
2) $y = 4x + 3$
 $y = -x - 2$



3) $y = -\frac{1}{2}x - 1$
 $y = \frac{1}{4}x - 4$

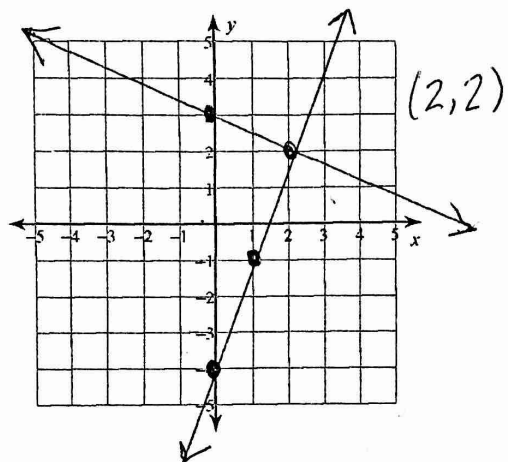


4) $y = -1$
 $y = -\frac{5}{2}x + 4$



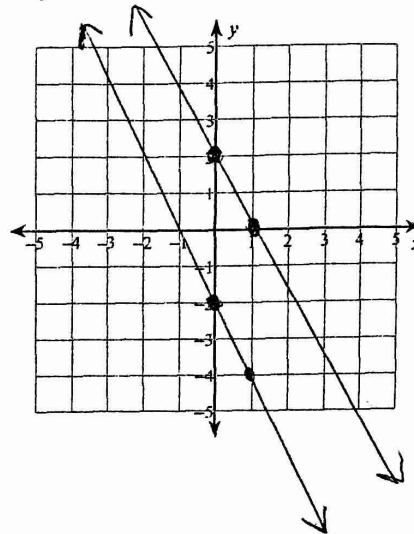
5) $y = 3x - 4$

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



6) $y = -2x + 2$

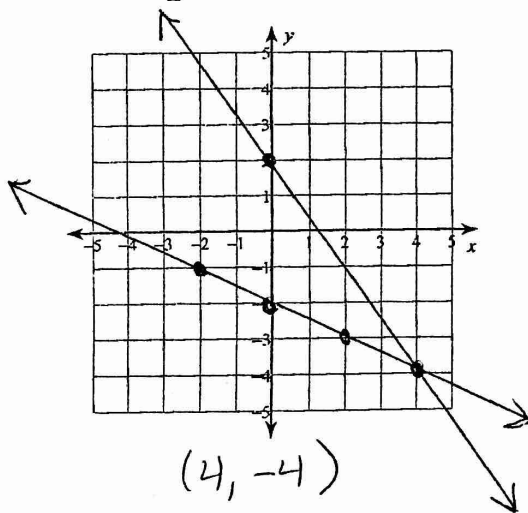
$y = -2x - 2$



No Solution

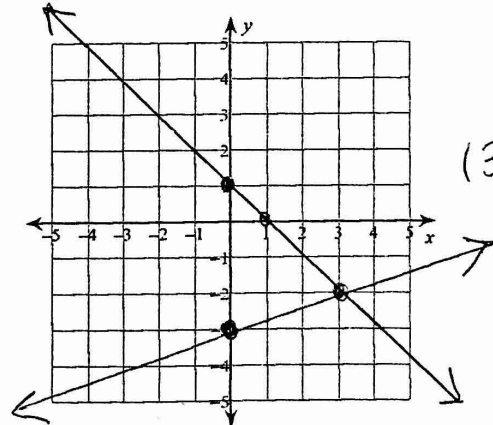
7) $y = -\frac{1}{2}x - 2$

$y = -\frac{3}{2}x + 2$



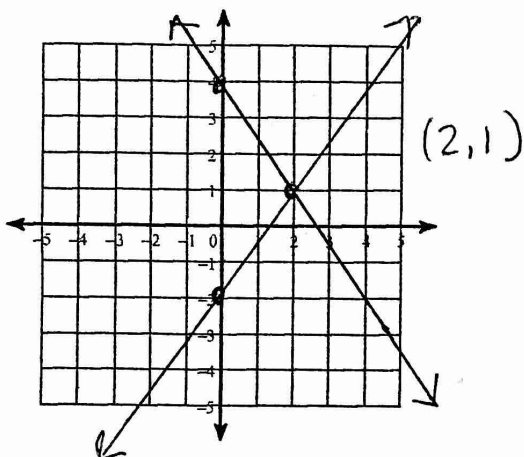
8) $y = \frac{1}{3}x - 3$

$y = -x + 1$



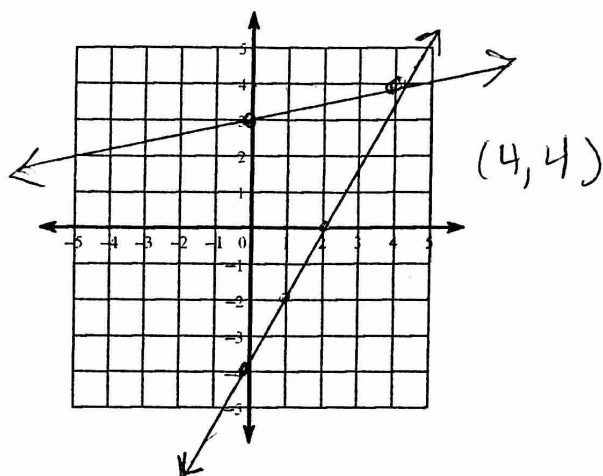
$$9) y = -\frac{3}{2}x + 4$$

$$y = \frac{3}{2}x - 2$$



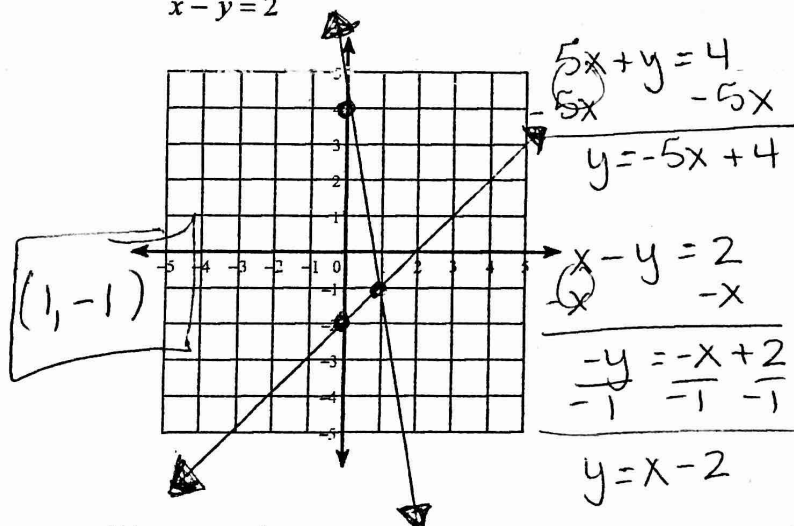
$$10) y = 2x - 4$$

$$y = \frac{1}{4}x + 3$$



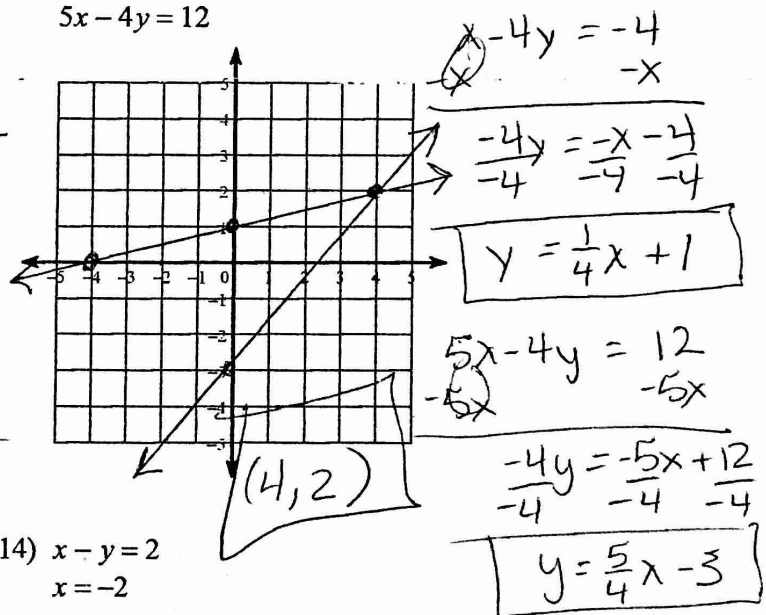
$$11) 5x + y = 4$$

$$x - y = 2$$



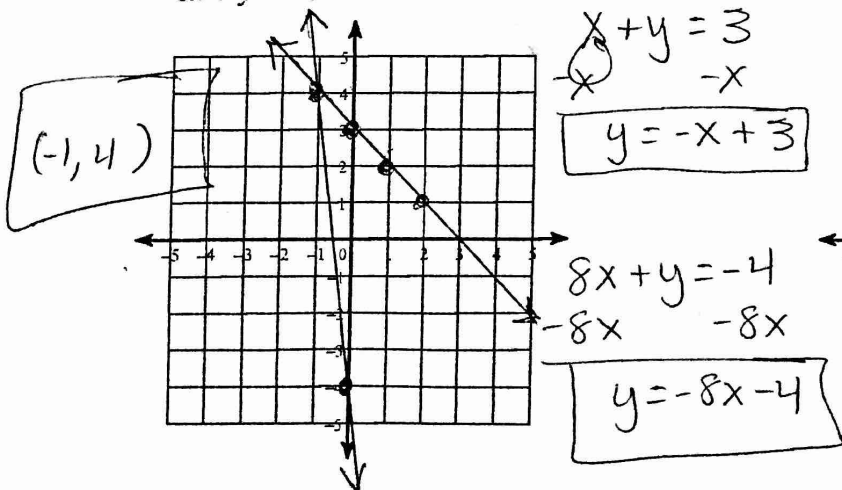
$$12) x - 4y = -4$$

$$5x - 4y = 12$$



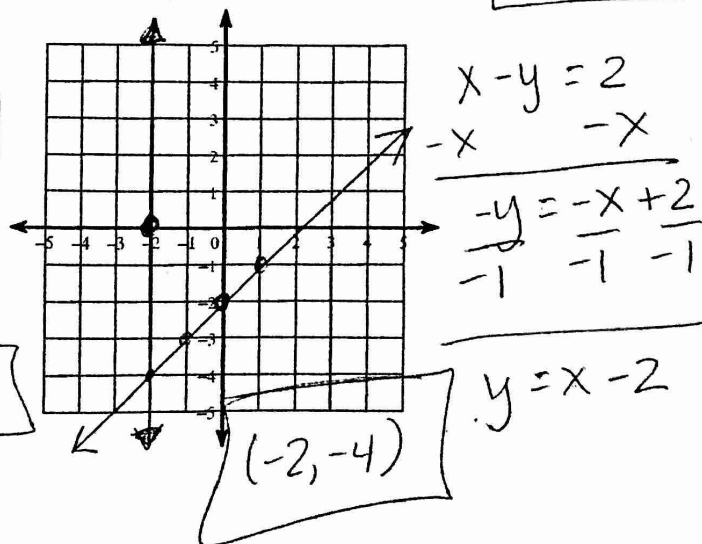
$$13) x + y = 3$$

$$8x + y = -4$$

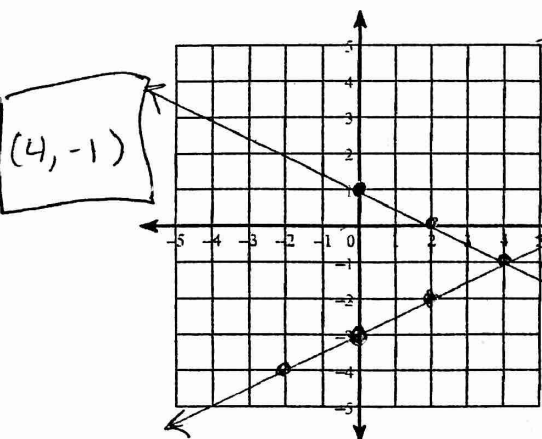


$$14) x - y = 2$$

$$x = -2$$



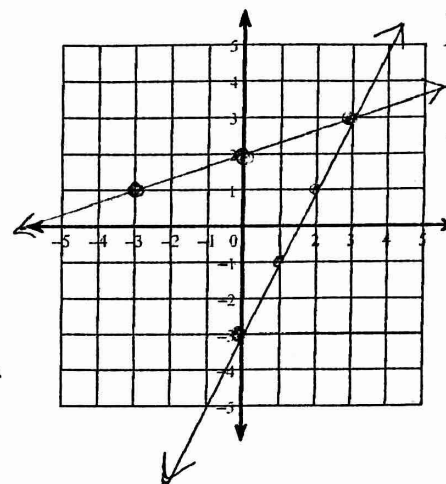
15) $2x + y = 1$
 $2x - y = 3$



$$\begin{array}{r} 2x + y = 1 \\ -2x \quad -2x \\ \hline y = -2x + 1 \end{array}$$

$$\begin{array}{r} 2x - y = 3 \\ -2x \quad -2x \\ \hline -y = -2x + 3 \\ \frac{-y}{-1} = \frac{-2x}{-1} + \frac{3}{-1} \\ y = 2x - 3 \end{array}$$

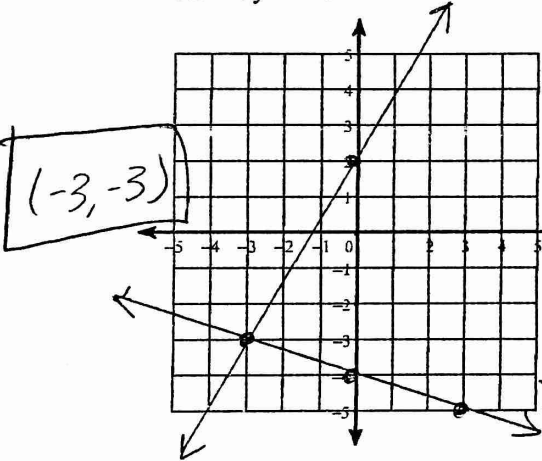
16) $x - 3y = -6$
 $2x - y = 3$



$$\begin{array}{r} x - 3y = -6 \\ -x \quad -x \\ \hline -3y = -x - 6 \\ \frac{-3y}{-3} = \frac{-x}{-3} - \frac{6}{-3} \\ y = \frac{1}{3}x + 2 \end{array}$$

$$\begin{array}{r} 2x - y = 3 \\ -2x \quad -2x \\ \hline -y = -2x + 3 \\ \frac{-y}{-1} = \frac{-2x}{-1} + \frac{3}{-1} \\ y = 2x - 3 \end{array}$$

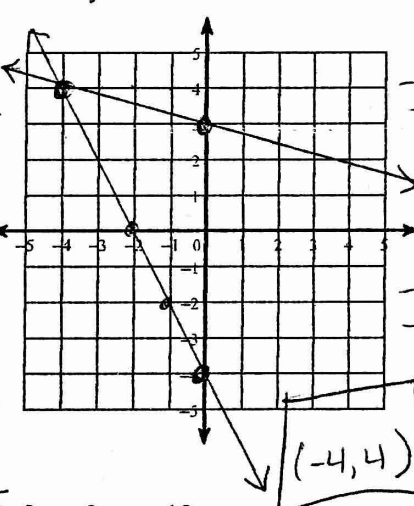
17) $x + 3y = -12$
 $5x - 3y = -6$



$$\begin{array}{r} x + 3y = -12 \\ -x \quad -x \\ \hline 3y = -x - 12 \\ \frac{3y}{3} = \frac{-x}{3} - \frac{12}{3} \\ y = -\frac{1}{3}x - 4 \end{array}$$

$$\begin{array}{r} 5x - 3y = -6 \\ -5x \quad -5x \\ \hline -3y = -5x - 6 \\ \frac{-3y}{-3} = \frac{-5x}{-3} - \frac{6}{-3} \\ y = \frac{5}{3}x + 2 \end{array}$$

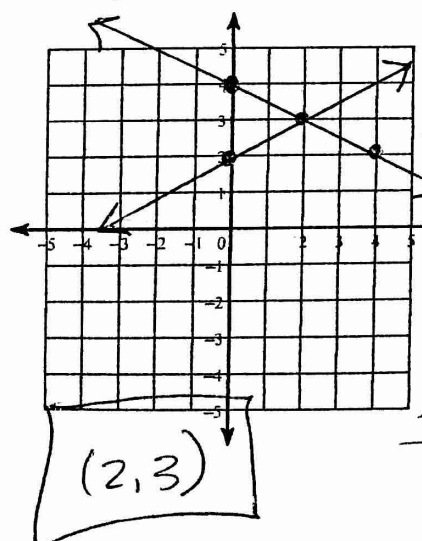
18) $2x + y = -4$
 $x + 4y = 12$



$$\begin{array}{r} 2x + y = -4 \\ -2x \quad -2x \\ \hline y = -2x - 4 \end{array}$$

$$\begin{array}{r} x + 4y = 12 \\ -x \quad -x \\ \hline 4y = -x + 12 \\ \frac{4y}{4} = \frac{-x}{4} + \frac{12}{4} \\ y = -\frac{1}{4}x + 3 \end{array}$$

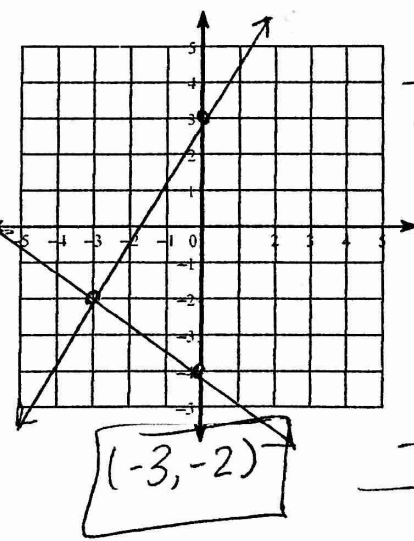
19) $x + 2y = 8$
 $x - 2y = -4$



$$\begin{array}{r} x + 2y = 8 \\ -x \quad -x \\ \hline 2y = -x + 8 \\ \frac{2y}{2} = \frac{-x}{2} + \frac{8}{2} \\ y = -\frac{1}{2}x + 4 \end{array}$$

$$\begin{array}{r} x - 2y = -4 \\ -x \quad -x \\ \hline -2y = -x - 4 \\ \frac{-2y}{-2} = \frac{-x}{-2} - \frac{4}{-2} \\ y = \frac{1}{2}x + 2 \end{array}$$

20) $2x + 3y = -12$
 $5x - 3y = -9$



$$\begin{array}{r} 2x + 3y = -12 \\ -2x \quad -2x \\ \hline 3y = -2x - 12 \\ \frac{3y}{3} = \frac{-2x}{3} - \frac{12}{3} \\ y = -\frac{2}{3}x - 4 \end{array}$$

$$\begin{array}{r} 5x - 3y = -9 \\ -5x \quad -5x \\ \hline -3y = -5x - 9 \\ \frac{-3y}{-3} = \frac{-5x}{-3} - \frac{9}{-3} \\ y = \frac{5}{3}x + 3 \end{array}$$

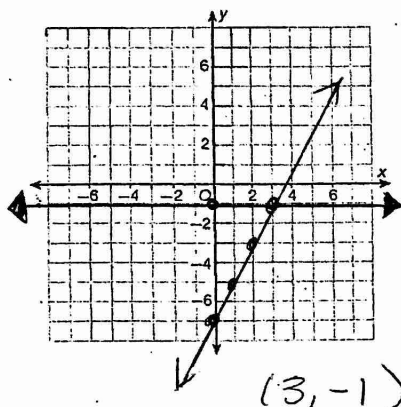
LESSON
8-1

Solving Systems of Linear Equations by Graphing

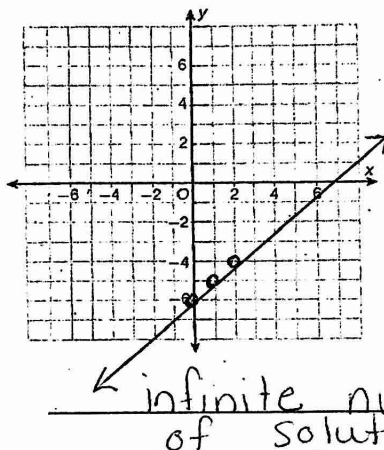
Practice and Problem Solving: A/B

Solve each linear system by graphing. Check your answer.

1. $y = -1$
 $y = 2x - 7$



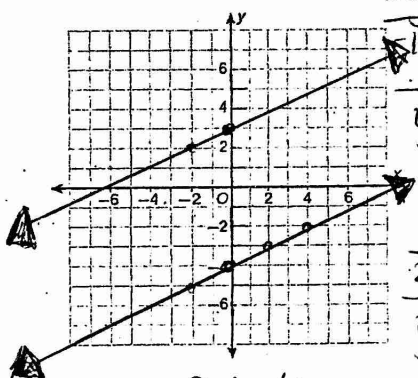
2. $x - y = 6$
 $2x = 12 + 2y$



$$\begin{array}{r} x - y = 6 \\ -x \quad -x \\ \hline -y = -x + 6 \\ -1 \quad -1 \quad -1 \\ \hline y = x - 6 \end{array}$$

$$\begin{array}{r} 12 + 2y = 2x \\ -12 \quad -12 \\ \hline 2y = 2x - 12 \\ \frac{2y}{2} = \frac{2x - 12}{2} \\ \hline y = x - 6 \end{array}$$

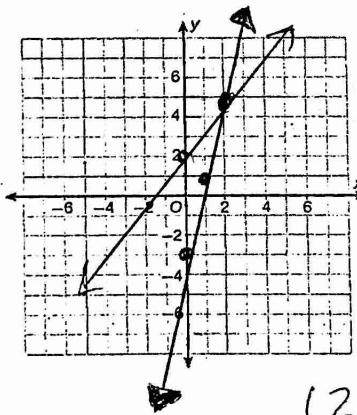
3. $\frac{1}{2}x - y = 4$
 $2y = x + 6$



$$\begin{array}{r} \frac{1}{2}x - y = 4 \\ -\frac{1}{2}x \quad -\frac{1}{2}x \\ \hline -y = -\frac{1}{2}x + 4 \\ -1 \quad -1 \\ \hline y = \frac{1}{2}x - 4 \end{array}$$

$$\begin{array}{r} 2y = x + 6 \\ \frac{2y}{2} = \frac{x + 6}{2} \\ \hline y = \frac{1}{2}x + 3 \end{array}$$

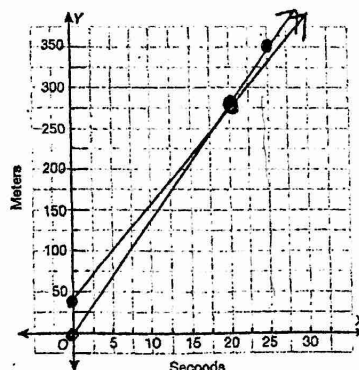
4. $y = 4x - 3$
 $2y - 3x = 4$



$$\begin{array}{r} 2y - 3x = 4 \\ +3x \quad +3x \\ \hline 2y = 3x + 4 \\ \frac{2y}{2} = \frac{3x + 4}{2} \\ \hline y = \frac{3}{2}x + 2 \end{array}$$

5. Two skaters are racing toward the finish line of a race. The first skater has a 40 meter lead and is traveling at a rate of 12 meters per second. The second skater is traveling at a rate of 14 meters per second. How long will it take for the second skater to pass the first skater?

$$\begin{array}{l} y = 14x \\ y = 12x + 40 \end{array} \quad \boxed{20 \text{ seconds}}$$



$$\begin{array}{l} y = 14(0) = 0 \\ y = 14(30) = 420 \\ y = 14(25) = 350 \\ y = 12(0) + 40 = 40 \\ y = 12(10) + 40 = 160 \\ y = 12(20) + 40 = 280 \end{array}$$

LESSON
8-1

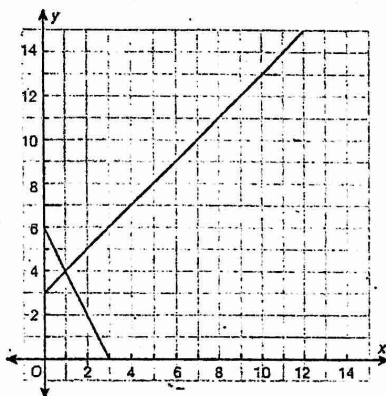
Solving Systems of Linear Equations by Graphing

Practice and Problem Solving: D

Solve each linear system by graphing. Check your answer. The first one is done for you.

1. $y = x + 3$

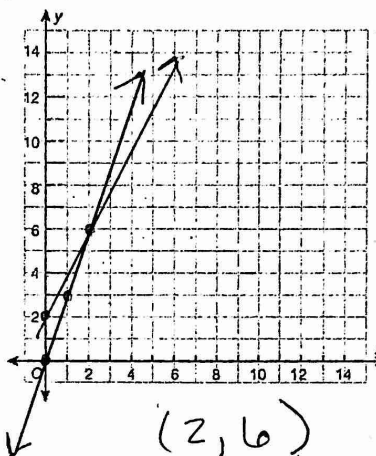
$y = -2x + 6$



(1, 4)

2. $3x = y$

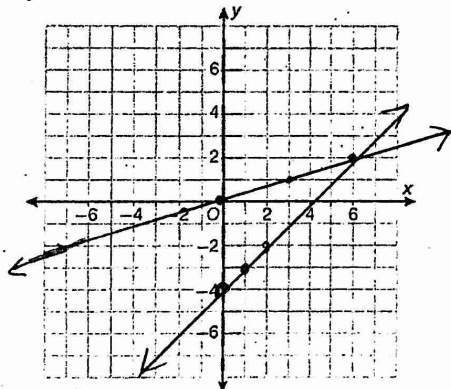
$y = 2x + 2$



(2, 6)

3. $x = 3y$

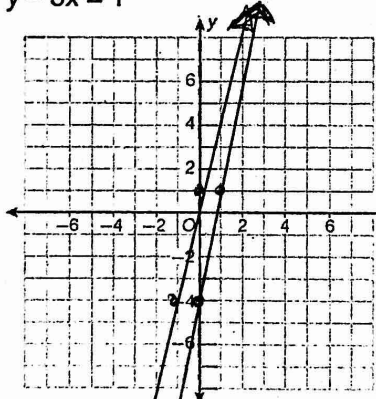
$y = x - 4$



(6, 2)

4. $y = 5x - 4$

$y - 5x = 1$



no solution

$$\begin{array}{r} y - 5x = 1 \\ +5x \quad +5x \\ \hline y = 5x + 1 \end{array}$$

5. Wanda started walking along a path 2 minutes (120 seconds) before Dave. Wanda walked at a constant rate of 5 feet per second. Dave walked along the same path at a constant rate of 10 feet per second. Graph the system of linear equations. If they continue walking at these rates, when will Dave catch up to Wanda?

$w = 5x$

