

# 3.22

## Graphing a System of Linear Equations

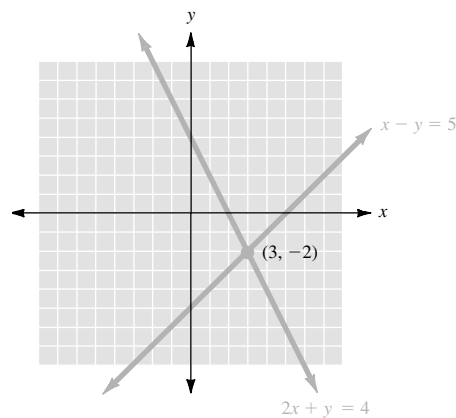
### • Example 1

Solve the system by graphing.

$$2x + y = 4$$

$$x - y = 5$$

We graph the lines corresponding to the two equations of the system.



The point of intersection, here  $(3, -2)$ , is the *only* point lying on both lines, and so  $(3, -2)$  is the only ordered pair satisfying both equations, and  $(3, -2)$  is the solution for the system.

Indeed, we check that

$$2 \cdot 3 + (-2) = 4$$

and

$$3 - (-2) = 5.$$

### ● ● ● CHECK YOURSELF 1

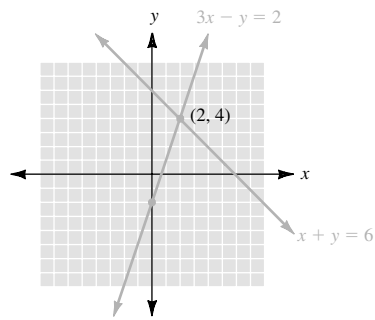
Solve the system by graphing.

$$3x - y = 2$$

$$x + y = 6$$

● ● ● CHECK YOURSELF ANSWER

1.



# 3.22 Exercises

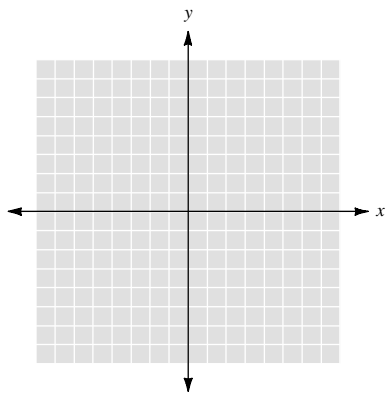
Name \_\_\_\_\_

Section \_\_\_\_\_

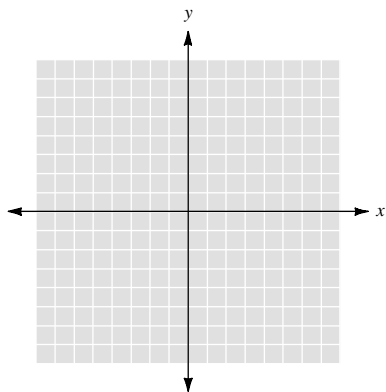
Date \_\_\_\_\_

Solve each system by graphing.

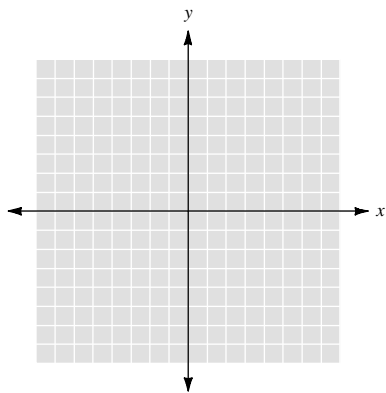
1.  $x + y = 6$   
 $x - y = 4$



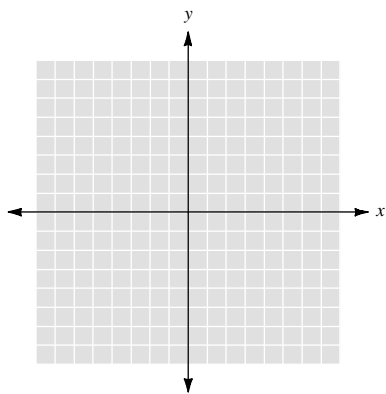
2.  $x - y = 8$   
 $x + y = 2$



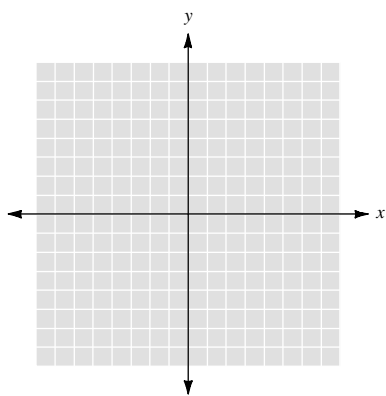
3.  $x + 2y = 4$   
 $x - y = 1$



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



5.  $3x + 2y = 12$   
 $y = 3$



6.  $x + 3y = 12$   
 $2x - 3y = 6$

