

3.22

Graphing a System of Linear Equations

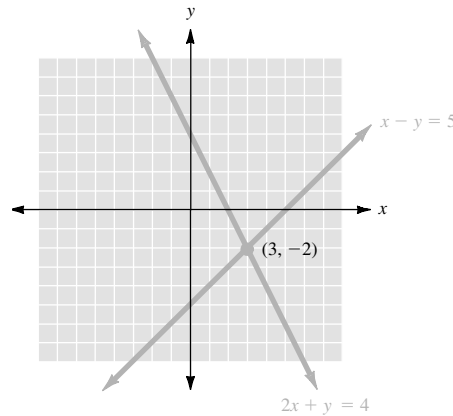
• Example 1

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

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

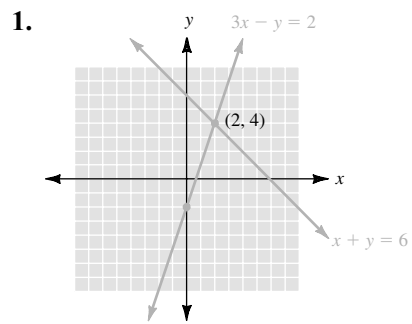
● ● ● CHECK YOURSELF 1

Solve the system by graphing.

$$3x - y = 2$$

$$x + y = 6$$

● ● ● CHECK YOURSELF ANSWER



3.22 Exercises

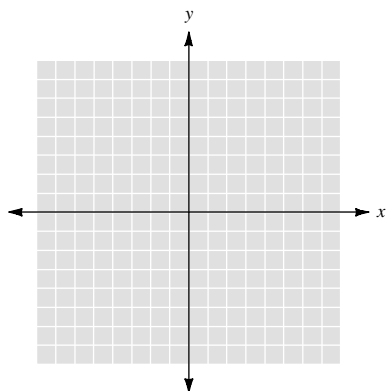
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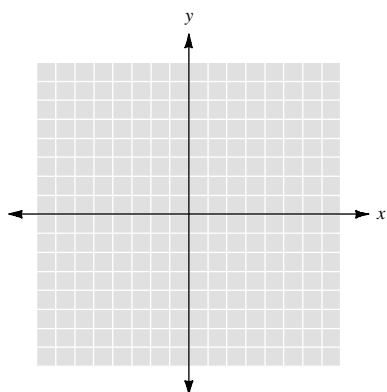
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Solve each system by graphing.

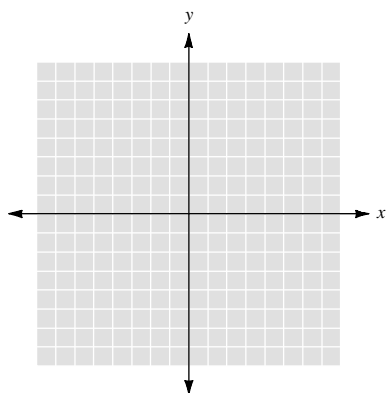
1. $x + y = 6$
 $x - y = 4$



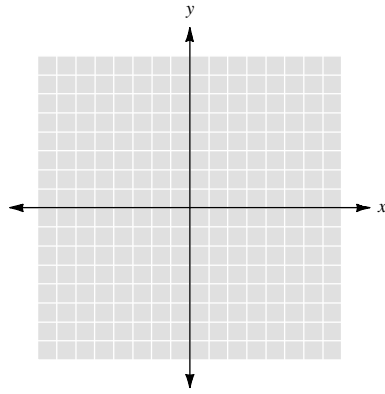
2. $x - y = 8$
 $x + y = 2$



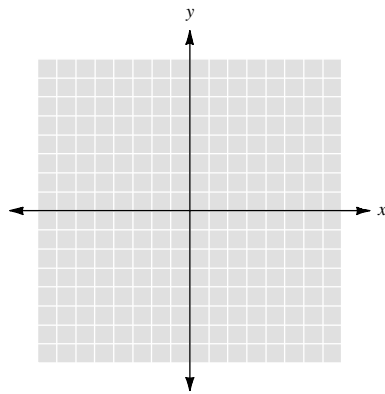
3. $x + 2y = 4$
 $x - y = 1$



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



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



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

