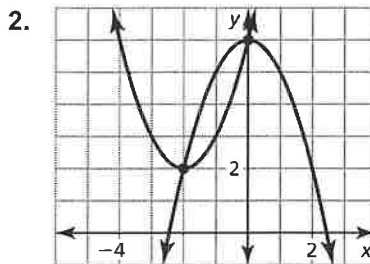
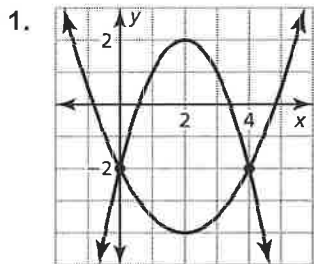


## 3.5 Extra Practice

In Exercises 1 and 2, use the graph to solve the system.



In Exercises 3–6, solve the system by graphing.

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

4.  $y = -3x^2 + 6$   
 $y = 3x$

5.  $y = -(x + 3)^2$   
 $y = x^2 - 9$

6.  $y = 3x^2 - 6x + 5$   
 $y = (x - 1)^2 + 2$

In Exercises 7–10, solve the system by substitution.

7.  $y = x^2 - 3$   
 $y + 1 = -x^2$

8.  $y - 12x + 15 = 3x^2$   
 $3x^2 - 16x + 13 - y = 0$

9.  $x^2 + y^2 = 6$   
 $x + 2y = 12$

10.  $x^2 + y^2 = 13$   
 $x - y = -1$

In Exercises 11–14, solve the system by elimination.

11.  $x^2 - 3x - y = -6$   
 $3x - y = 5$

12.  $y = x^2 + 3x - 8$   
 $-y = 3x - 8$

13.  $y = -2x^2 - 18x - 16$   
 $y = 3x^2 + 12x + 24$

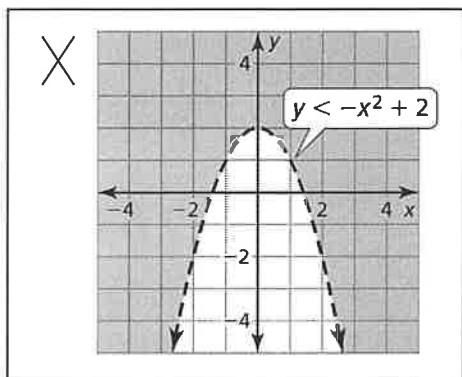
14.  $-6x^2 - y = -32x + 50$   
 $12x^2 - y = 64x - 76$

15. A nonlinear system contains the equation of a constant function and the equation of a circle. The system has one solution. Describe the relationship between the graphs.

## 3.6 Extra Practice

In Exercises 1–4, graph the inequality.

- $y \leq x^2 + 3$
- $y > x^2 + 2x - 3$
- $y < -(x + 1)^2 + 2$
- $y \geq -x^2 + 4x$
- Describe and correct the error in graphing  $y < -x^2 + 2$ .



In Exercises 6 and 7, graph the system of quadratic inequalities.

- $y \leq -x^2 + 3$   
 $y \geq 2x^2 - 3x + 1$
- $y > x^2 - x + 4$   
 $y < x^2 + 2x - 4$

In Exercises 8–11, solve the inequality algebraically.

- $2x^2 - 6 > -11x$
- $2x^2 - 5x + 3 \leq 1$
- $\frac{1}{2}x^2 + 3x \geq 2$
- $\frac{1}{3}x^2 - 2x < 9$

In Exercises 12–15, solve the inequality by graphing.

- $2x^2 - 6 > -3x$
- $4x^2 + 3x - 5 \leq 1$
- $\frac{1}{2}x^2 + x \leq 2$
- $\frac{2}{3}x^2 + 2x > 4$

- An object is dropped from a building. The height  $h$  (in feet) of the object after  $t$  seconds can be modeled by  $h(t) = -16t^2 + 25$ .

- At what height was the object initially dropped? Explain.
- Write an inequality that you can use to find the  $t$ -values for which the object was in the air.
- Based on your results from parts (a) and (b), use technology to determine the time intervals in which the object was in the air.