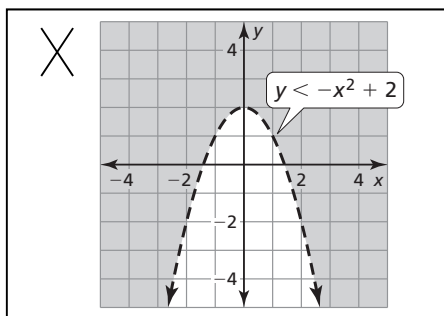


## 4.9 Practice B

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  $h(t) = -16t^2 - 28t + 25$ .

- 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 a graphing calculator to determine the time intervals in which the object was in the air.