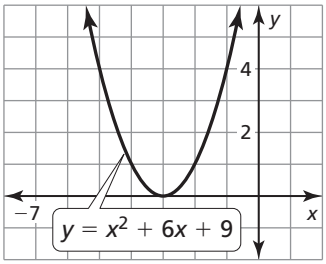
Name_____ Date _____

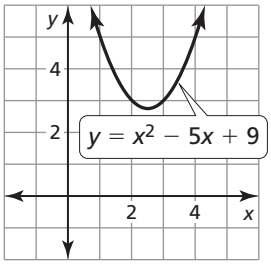
4.2 Practice B

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

1. $x^2 + 6x + 9 = 0$



2. $x^2 - 5x + 9 = 0$



In Exercises 3–5, write the equation in standard form.

3. $-x^2 = 23$

4. $3 - 5x^2 = 9x$

5. $6 - 2x = 7x^2$

In Exercises 6–11, solve the equation by graphing.

6. $-x^2 + 6x = 0$

7. $x^2 - 12x + 36 = 0$

8. $x^2 - 4x + 8 = 0$

9. $6x - 7 = -x^2$

10. $x^2 = -x - 1$

11. $9 - x^2 = -8x$

12. The height h (in feet) of a fly ball in a baseball game can be modeled by $h = -16t^2 + 28t + 8$, where t is the time (in seconds).

a. Do both t-intercepts of the graph of the function have meaning in this situation? Explain.

b. No one caught the fly ball. After how many seconds did the ball hit the ground?

In Exercises 13–15, solve the equation by using Method 2 from Example 3.

13. $x^2 = 6x + 7$

14. $-20 = x^2 + 9x$

15. $x^2 - 24 = 10x$

In Exercises 16–19, graph the function. Approximate the zeros of the function to the nearest tenth when necessary.

16. $f(x) = x^2 + 5x + 2$

17. $f(x) = x^2 - 4x + 3$

18. $y = -x^2 + 3x - 5$

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

20. The area (in square feet) of an x-foot-wide path can be modeled by $y = -0.003x^2 + 0.018x$. Find the width of the path to the nearest foot.