

Practice B

For use with pages 282–289

Write the expression as the square of a binomial.

1. $x^2 + 8x + 16$

2. $x^2 - 10x + 25$

3. $x^2 - \frac{1}{2}x + \frac{1}{16}$

4. $4x^2 + 12x + 9$

5. $9x^2 - 6x + 1$

6. $9x^2 - \frac{3}{2}x + \frac{1}{16}$

Find the value of c that makes the expression a perfect square trinomial. Then write the expression as the square of a binomial.

7. $x^2 + 24x + c$

8. $x^2 - 30x + c$

9. $x^2 + 5x + c$

10. $x^2 - 9x + c$

11. $4x^2 + 8x + c$

12. $9x^2 + 6x + c$

Solve the equation by completing the square.

13. $x^2 + 6x - 7 = 0$

14. $x^2 - 14x + 1 = 0$

15. $x^2 - 3x - 4 = 0$

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

17. $2x^2 - 2x - 4 = 0$

18. $3x^2 + 9x - 12 = 0$

19. $2x^2 - 4x - 10 = 0$

20. $-5x^2 + 10x + 20 = 0$

21. $4x^2 - 4x - 2 = 0$

22. $3x^2 - 12x + 1 = 0$

23. $-2x^2 + 8x + 10 = 0$

24. $-x^2 - 4x + 3 = 0$

Write the quadratic function in vertex form and identify the vertex.

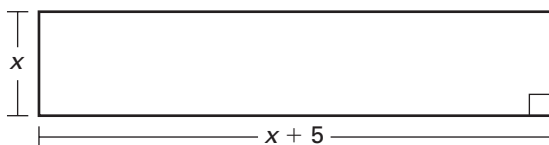
25. $y = x^2 - 8x + 11$

26. $y = 2x^2 + 4x - 7$

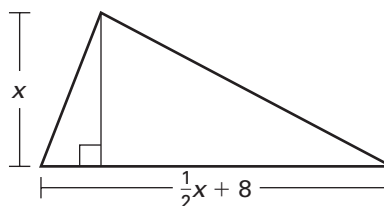
27. $y = -3x^2 + 6x - 8$

Find the dimensions of the figure. Round your answer to the nearest thousandth.

28. Area of rectangle = 8 square feet



29. Area of triangle = 23 square feet



No Passing Zone A “No Passing Zone” sign has the shape of an isosceles triangle. The width of the sign is 7 inches greater than its height. The top and bottom edges of the sign are 44 inches.

30. Use the Pythagorean theorem to write an equation that relates x , $2x + 7$, and 44.31. Solve the equation in Exercise 30 by completing the square. (*Hint:* Use decimal representations and a calculator to simplify your work.)

32. What is the height of the sign?

