

LESSON

Practice B**5-4** *Completing the Square*

Solve each equation.

1. $2x^2 - 6 = 42$

2. $x^2 - 14x + 49 = 18$

Complete the square for each expression. Write the resulting expression as a binomial squared.

3. $x^2 - 4x + \underline{\hspace{1cm}}$

4. $x^2 + 12x + \underline{\hspace{1cm}}$

Solve each equation by completing the square.

5. $2d^2 = 8 + 10d$

6. $x^2 + 2x = 3$

7. $-3x^2 + 18x = -30$

8. $4x^2 = -12x + 4$

Write each function in vertex form, and identify its vertex.

9. $f(x) = x^2 - 6x - 2$

10. $f(x) = x^2 - 4x + 1$

11. $h(x) = 3x^2 - 6x - 15$

12. $f(x) = -2x^2 - 16x + 4$

Solve.

13. Nathan made a triangular pennant for the band booster club. The area of the pennant is 80 square feet. The base of the pennant is 12 feet shorter than the height.

a. What are the lengths of the base and height of the pennant?

b. What are the dimensions of the pennant if the base is only 6 feet shorter than the height?
