5-4 Completing the Square

Lesson Quiz

1. Complete the square for the expression $x^2 - 15x + \blacksquare$. Write the resulting expression as a binomial squared.

Solve each equation.

2. $x^2 - 16x + 64 = 20$

3. $x^2 - 27 = 4x$

Write each function in vertex form and identify its vertex.

4. $f(x) = x^2 + 6x - 7$

5. $f(x) = 2x^2 - 12x - 27$

5-4 Completing the Square

Lesson Quiz

1. Complete the square for the expression $x^2 - 15x + \blacksquare$. Write the resulting expression as a binomial squared.

   $x^2 - 15x + \frac{225}{4} = \left(x - \frac{15}{2}\right)^2$

Solve each equation.

2. $x^2 - 16x + 64 = 20$ $8 \pm 2\sqrt{5}$

3. $x^2 - 27 = 4x$ $2 \pm \sqrt{31}$

Write each function in vertex form and identify its vertex.

4. $f(x) = x^2 + 6x - 7$ $f(x) = (x + 3)^2 - 16$; $(-3, -16)$

5. $f(x) = 2x^2 - 12x - 27$ $f(x) = 2(x - 3)^2 - 45$; $(3, -45)$