

**5.3 Solving Equations by  
Completing the Square**

Name \_\_\_\_\_

Solve each equation by completing the square.

**1.**  $x^2 + 6x = -5$

**2.**  $x^2 + 4x = 5$

**3.**  $x^2 - 4x = 11$

**4.**  $x^2 - 10x = -15$

Answers: **1.**  $\{-1, -5\}$ ; **3.**  $\{2 \pm \sqrt{15}\}$

Solve each equation by completing the square.

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

6.  $x^2 + 10x - 1 = 0$

7.  $2x^2 - 11x + 5 = 0$

8.  $2x^2 - 7x + 6 = 0$

Answers: 5.  $\{-2 \pm \sqrt{7}\}$ ; 7.  $\{\frac{1}{2}, 5\}$

Solve each equation by completing the square.

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

10.  $2x^2 - 5x + 1 = 0$

11.  $3x^2 - 2x + 3 = 0$

12.  $4x^2 + 2x + 3 = 0$

Answers: 9.  $\left\{ \frac{-3 \pm \sqrt{11}}{2} \right\}$ ; 11.  $\left\{ \frac{1}{3} \pm \frac{2\sqrt{2}}{3}i \right\}$