

**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. $\left\{ \frac{1}{3} \pm \frac{2\sqrt{2}}{3}i \right\}$