# 4.9 The Quadratic Formula

**Solve each quadratic using the quadratic formula.**

1.) $x^2 - 4x - 7 = 0$

2.) $p^2 + 7p + 3 = 0$

3.) $2a^2 - 9a + 1 = 0$

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

5.) $2m^2 - 7m - 13 = -10$

6.) $8x^2 + 4x - 16 = -x^2$

7.) $3x^2 + 18x + 30 = 0$

8.) $4w^2 + 11w + 13 = 0$

**Answer Key**

1.) $x^2 - 4x - 7 = 0$

x $= \{2 - \sqrt{11}, 2 + \sqrt{11}\}$

2.) $p^2 + 7p + 3 = 0$

p $= \{\frac{-7-\sqrt{37}}{2}, \frac{-7+\sqrt{37}}{2}\}$

3.) $2a^2 - 9a + 1 = 0$

a $= \{\frac{9-\sqrt{73}}{4}, \frac{9+\sqrt{73}}{4}\}$

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

x $= \{\frac{3-\sqrt{31}i}{4}, \frac{3+\sqrt{31}i}{4}\}$

5.) $2m^2 - 7m - 13 = -10$

m $= \{\frac{7-\sqrt{73}}{4}, \frac{7+\sqrt{73}}{4}\}$

6.) $8x^2 + 4x - 16 = -x^2$

x $= \{\frac{-2-2\sqrt{37}}{9}, \frac{-2+2\sqrt{37}}{9}\}$

7.) $3x^2 + 18x + 30 = 0$

x $= \{-3 - i, -3 + i\}$

8.) $4w^2 + 11w + 13 = 0$

w $= \{\frac{-11-\sqrt{87}i}{8}, \frac{-11+\sqrt{87}i}{8}\}$