

**Algebra 2**  
**Worksheet 3E**

Solve each quadratic equation by completing the square.

1.  $x^2 - 22x + 121 = 81$

2.  $x^2 - 16x + 64 = -8$

3.  $x^2 + 10x = -30$

4.  $x^2 - 8x + 5 = 1$

5.  $x^2 + 12x + 50 = 2$

6.  $x^2 - 6x + 42 = 3$

7.  $2x^2 + 8x = 17$

8.  $-x^2 + 6x = 12$

9.  $3x^2 - 18x + 14 = 0$

10.  $5x^2 + 60x = 18$

**Write each quadratic function in vertex form.**

11.  $y = x^2 - 8x + 5$

12.  $y = x^2 + 6x + 1$

13.  $y = x^2 + 2x - 6$

14.  $y = x^2 - 4x + 1$

15.  $y = 2x^2 - 4x + 5$

16.  $y = -3x^2 + 12x + 1$