

**Solve each equation by factoring. Check your answers.**

1.  $x^2 + 6x + 8 = 0$

2.  $x^2 + 18 = 9x$

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

4.  $x^2 - 10x + 25 = 0$

5.  $2x^2 + 6x = -4$

6.  $3x^2 = 16x + 12$

### Completing the Square

7. Find the missing value to complete the square:  $x^2 - 8x + \blacksquare$ .

8. Find the missing value to complete the square:  $x^2 + 7x + \blacksquare$ .

### Solving by Completing the Square

9. Solve  $x^2 - 12x + 5 = 0$ .

10.  $x^2 + 4x - 4 = 0$

#### Theorem

#### Quadratic Formula

A quadratic equation written in standard form  $ax^2 + bx + c = 0$  can be solved with the Quadratic Formula.

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

Must be set  
equal to  
zero!

11.  $f(x) = -2x^2 + 5x - 1$

12.  $2x^2 + 6x - 7 = 2$