

- Expressions & Equations
- Linear Functions
- Polynomials & Nonlinear Functions
- Radicals & Rational Functions
- Data Analysis & Probability

# Perfect Squares

## Consider This

A perfect-square trinomial may be in the form  $a^2 + 2ab + b^2$  or  $a^2 - 2ab + b^2$ . The first and last terms are perfect squares and the middle term is twice the product of the square roots of the first and last terms.

Factor the trinomial.

**1**  $x^2 + 8x + 16$

**2**  $4x^2 - 4x + 1$

**3**  $9x^2 - 36x + 36$

**4**  $25x^2 + 100xy + 100y^2$

**5**  $16x^2 + 8x + 16$

**6**  $x^2 + 6x + 9$

**7**  $36x^2 - 84x + 49$

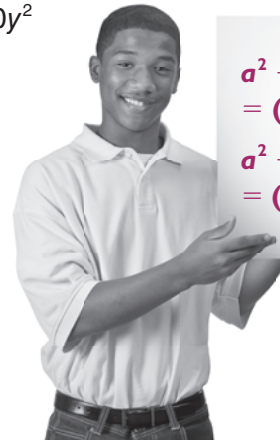
**8**  $25x^2 - 100xy + 100y^2$

**9**  $64x^2 + 8x + \frac{1}{4}$

**10**  $36x^2 + 60x + 25$

**11**  $x^2 + 24x + 144$

**12**  $x^2 + 22x + 121$

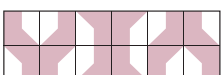


$$a^2 + 2ab + b^2 = (a + b)^2;$$

$$a^2 - 2ab + b^2 = (a - b)^2$$

## Answer Box

<b>A</b> not a perfect square	<b>B</b> $(x + 12)^2$	<b>C</b> $(x + 3)^2$	<b>D</b> $(2x - 1)^2$	<b>E</b> $(6x + 5)^2$	<b>F</b> $(6x - 7)^2$
<b>G</b> $(8x + \frac{1}{2})^2$	<b>H</b> $(3x - 6)^2$	<b>I</b> $(x + 11)^2$	<b>J</b> $(5x - 10y)^2$	<b>K</b> $(5x + 10y)^2$	<b>L</b> $(x + 4)^2$



**Objective:** Factor perfect-square trinomials.