

General Strategy – the FOIL Method

Use the distributive property to find the products of the **F**irst, **O**uter, **I**nnner, and **L**ast terms.

Shortcut Formula for Multiplying Binomials

- Square of a sum: *Square the first term, add twice the product of the two terms, and add the square of the last terms.*

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

- Square of a difference: *Square the first term, subtract twice the product of the two terms, and add the square of the last terms.*

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

- Product of a sum and a difference: *Take the difference of the two squares.*

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