

Section 16 *Special Products*

You will need to remember the **special product formulas**:

$$(x + y)^2 = x^2 + 2xy + y^2$$

$$(x - y)^2 = x^2 - 2xy + y^2$$

$$(x + y)(x - y) = x^2 - y^2$$

Example 1: Multiplying Sums and Differences of Two Terms

Multiply the following polynomials.

a) $(x + 3)^2$

b) $(2x + 5y)^2$

c) $\left(\frac{1}{2}x - 3y^2\right)^2$

Example 2: Multiplying the Difference of Two Squares

Multiply the following polynomials.

a) $(x - 2)(x + 2)$

b) $(2xy^2 - 3x)(2xy^2 + 3x)$

c) $(2x - 3 + y)(2x - 3 - y)$

d) $(2x - 5)^2 - (x - 1)(x + 1)$