

Name

8.3 Find Special Products of Polynomials

Alg I

I can use special product patterns to multiply polynomials.

Square of a Binomial Pattern:

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

$$(x+5)^2 = x^2 + 10x + 25 \quad (2x-3)^2 = 4x^2 - 12x + 9$$

Ch. 8 Quiz
Ch. 7/8 Test

Example 1:

$$1) (x+3)^2 = x^2 + 2 \cdot 3 \cdot x + 9 \quad 2) (2x+1)^2 = 4x^2 + 2x \cdot 2 \cdot 1 + 1$$

$$\boxed{x^2 + 6x + 9} \quad \boxed{4x^2 + 4x + 1}$$

$$3) (4x-y)^2 = 16x^2 - 2 \cdot 4x \cdot y + y^2 \quad 4) (3m+n)^2 = 9m^2 + 2 \cdot 3m \cdot n + n^2$$

$$\boxed{16x^2 - 8xy + y^2} \quad \boxed{9m^2 + 6mn + n^2}$$

Complete skills practice, pg. 514, #

Sum and Difference Pattern:

$$(a+b)(a-b) = a^2 - b^2 \quad (x+3)(x-3) = x^2 - 9$$

Example 2:

$$5) (x+10)(x-10) \quad 6) (2x+1)(2x-1)$$

$$\boxed{x^2 - 100} \quad \boxed{4x^2 - 1}$$

$$7) (x+3y)(x-3y) \quad \boxed{x^2 - 9y^2}$$

Example 3:

$$8) 21^2 = (20+1)^2$$