Algebra 1

Chapter 8

Section 8-4

Review: Exponents

Squaring Monomials

$(-9x)^2$ $81x^2$

$(7x)^2$ $49x^2$

$(-3b^3)^2$ $9b^6$

Review: FOIL

$(5 - 9x)(7x + 2)$

$35x + 10 - 63x^2 - 18x$

$17x + 10 - 63x^2$

$(a - 3b)(a^2 + 3ab)$

$a^3 + 3a^2b - 3a^2b - 9ab^2$

$a^3 - 9ab^2$

Using FOIL

$(x + 3)(x - 3)$

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

$x^2 - 9$

$36y^6 + 6y^3 - 6y^3 - 1$

$36y^6 - 1$

Multiplying Two Opposite Binomials

Formula:

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

Using FOIL

$(9 - y)(9 + y)$

$81 - y^2$

$h^2 - (jkm)^2$

$h^2 - j^2k^2m^2$

Using FOIL

$(x + 9)^2$

$(x+9)(x+9)$

$x^2+9x+9x+81$

$x^2+18x+81$

$(2y-3)(2y-3)$

$4y^2-6y-6y+9$

$4y^2-12y+9$

Multiplying Identical Binomials (or Squaring a Binomial)

Formulas:

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

or

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

Using FOIL

$(nba + 2k)^2$

$(nba)^2 + 2(nba)(2k) + (2k)^2$

$n^2b^2a^2 + 4nbak + 4k^2$

$5^2 + 2(5)(-3m^5) + (-3m^5)^2$

$25 - 30m^5 + 9m^{10}$

Using the special case formulas

$(x + 9)^2$

$x^2 + 2 \cdot x \cdot 9 + 9^2$

$x^2 + 18x + 81$

$(7y + x)(7y - x)$

$(7y)^2 - x^2$

$49y^2 - x^2$

$(10 + x)(x + 10)$

$x^2 + 2 \cdot x \cdot 10 + 10^2$

$x^2 + 20x + 100$

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

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

$a^4 - 2a^2b + b^2$