9.3: Find Special Products of Polynomials

Goals: *Identify a pattern and use when squaring a binomial sum

*Identify a pattern and use when squaring a binomial difference

*Identify a pattern and use when multiplying a binomial sum and difference

Special Products Formulas						
1. $(a+b)^2 =$						
2. $(a-b)^2 =$						
3. $(a+b)(a-b) =$						

Foil then try to find the pattern and come up with a formula for $(a + b)^2$.

Ex: $(x + y)^2$ **Ex:** $(3 + x)^2$ **Ex:** $(2x + y)^2$

Multiply each polynomial by applying the special products formula:

Ex:	$(x+3)^2$	Ex:	$(2x+1)^2$	Ex:	$(3m+n)^2$
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Ex: $(x + 5)^2$

Ex: $(3x + 4)^2$

Ex: $(2x + 5)^2$

Foil. Then try and find a pattern to come up with a formula for $(a - b)^2$.

Ex: $(x-y)^2$ **Ex:** $(2x-y)^2$ **Ex:** $(x-3)^2$

Multiply each polynomial by applying the special products formula:

Ex: $(4x - y)^2$ **Ex:** $(2x - 3)^2$

Ex:
$$(5x - 2y)^2$$
 Ex: $(3x - 4y)^2$

Foil. Then try and find a pattern to come up with a formula for (a + b)(a - b)

Ex: (x + y)(x - y) **Ex:** (2x - 3y)(2x + 3y) **Ex:** (c + 3d)(c - 3d)

Multiply each polynomial by applying the special products formula:

Ex:
$$(t+5)(t-5)$$
 Ex: $(3x+y)(3x-y)$ **Ex:** $(x+10)(x-10)$

Ex:
$$(2x+1)(2x-1)$$
 Ex: $(r+3)(r-3)$ **Ex:** $(x+3y)(x-3y)$

Ex: (4x + y)(4x - y)