

### 9.3: Special Products

“I WILL ...

Multiply special products of polynomials.”

#### I. Square of a Binomial Pattern

- A. When a binomial is squared, rewrite the problem with two binomials
- B. FOIL correctly
- C. Combine like terms
- D. \_\_\_\_\_ the exponents
- E.  $(a + b)^2 = a^2 + 2ab + b^2$
- F.  $(a - b)^2 = a^2 - 2ab + b^2$
- G. Check your answer by going to  $y_1 = y_2$

#### II. Sums and Differences of Squares

- A. When a binomial is squared, rewrite the problem with two binomials
- B. FOIL correctly
- C. Combine like terms
- D. DO NOT DISTRIBUTE the exponents
- E.  $(a + b)^2 = a^2 + 2ab + b^2$
- F.  $(a - b)^2 = a^2 - 2ab + b^2$

#### III. Model Problems

Ex 1: Multiply $(x + 2)^2$	Ex 2: Multiply $(x - 4)^2$	Your Turn: Multiply $(x - 9)^2$
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Ex 3: Multiply $(3x + 1)^2$	Ex 4: Multiply $(4x - 5)^2$	Your Turn: Multiply $(2x + 5)^2$
Ex 5: Multiply $(4x - y)^2$	Ex 6: Multiply $(3m + 2n)^2$	Your Turn: Multiply $(3x - 7y)^2$
Ex 7: Multiply $(x + 5)(x - 5)$	Ex 8: Multiply $(5x + 3)(5x - 3)$	Your Turn: Multiply $(4x + 3y)(4x - 3y)$
Ex 9: Find the perimeter and area of a square which sides are $3x - 2$ .	Your Turn: Find the perimeter and area of a square which sides are $5x - 3$ .	