There are some special forms of binomial products that we should remember. When finding the area of a square where the side is a binomial, we can use our FOIL Method, but the important thing to observe is the pattern that is generated:

$(a + b)^2$ $(a + b)(a + b)$ $a^2 + ab + ab + b^2$ $a^2 + 2ab + b^2$	1. expand 2. FOIL 3. combine like terms 4. Note the pattern: the first term is squared and added to 2 times the product of the terms, and the square of the last term is added.

Multiply, what pattern to you see?

$(a - b)^2$	$(a + b)(a - b)$ *This is called the difference of two squares!*

In summary we have 3 special forms of binomial products. These patterns are short cuts to the FOIL method:

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

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

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

Using our special forms, expand the following binomial products:

$(5a + b)^2$ $\qquad\qquad$ $(x - 7)^2$ $\qquad\qquad$ $(x + 8)(x - 8)$

$(1 + c^3)^2$ $\qquad\qquad$ $(3b - 2c)^2$ $\qquad\qquad$ $(x + 2y^2)(x - 2y^2)$