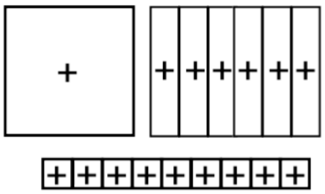
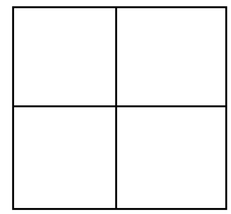
Name: Period: Date:

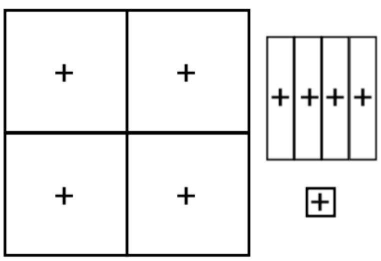
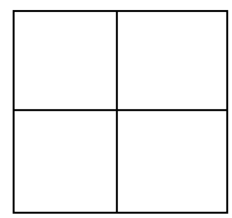
Math Lab: Factoring with Perfect Squares

Perfect Square Trinomials

Example A

Write the area as a sum.	Sketch the tiles as a rectangle and write the area as a product.	Factor using the box-method.
		

Example B

Write the area as a sum.	Sketch the tiles as a rectangle and write the area as a product.	Factor using the box-method.
		

These are examples of perfect square trinomials. If you recognize that a quadratic is a perfect square trinomial, you can use this short-cut to factor it rather than using the box-method.

Perfect Square Trinomials

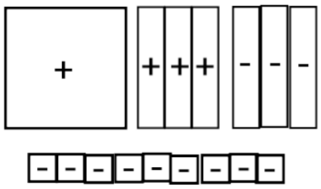
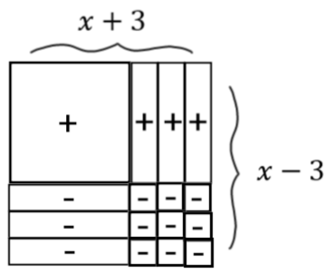
$$a^2 - 2ab + b^2 = (a - b)^2$$
$$a^2 + 2ab + b^2 = (a + b)^2$$

Determine if the quadratic is a perfect square trinomial. If so, factor it using the short-cut.

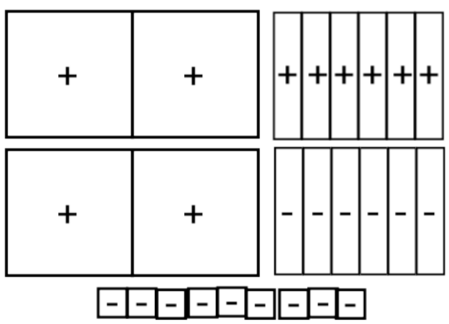
1] $x^2 + 12x + 36$	2] $x^2 - 7x + 49$	3] $9x^2 + 30x + 25$
4] $4x^2 - 36x + 81$	5] $16x^2 + 8x + 1$	6] $25x^2 - 35x + 49$

Difference of Squares

Example C

Write the area as a sum.	Sketch the tiles as a rectangle and write the area as a product.	Factor using the box-method.
		

Example D

Write the area as a sum.	Sketch the tiles as a rectangle and write the area as a product.	Factor using the box-method.
		

These are examples of a difference of squares binomial. If you recognize that a quadratic is a difference of squares, you can use this short-cut to factor it rather than using the box-method.

Difference of Squares

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

Determine if the quadratic is a difference of squares. If so, factor it using the short-cut.

7] $x^2 - 49$	8] $25x^2 - 36$	9] $x^2 + 16$
10] $4x^2 - 81$	11] $49x^2 + 64$	12] $100x^2 - 1$