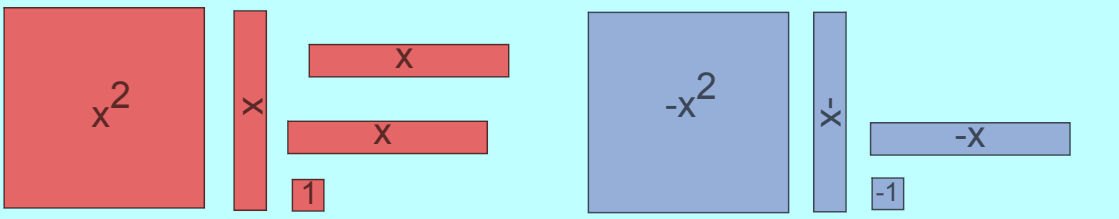
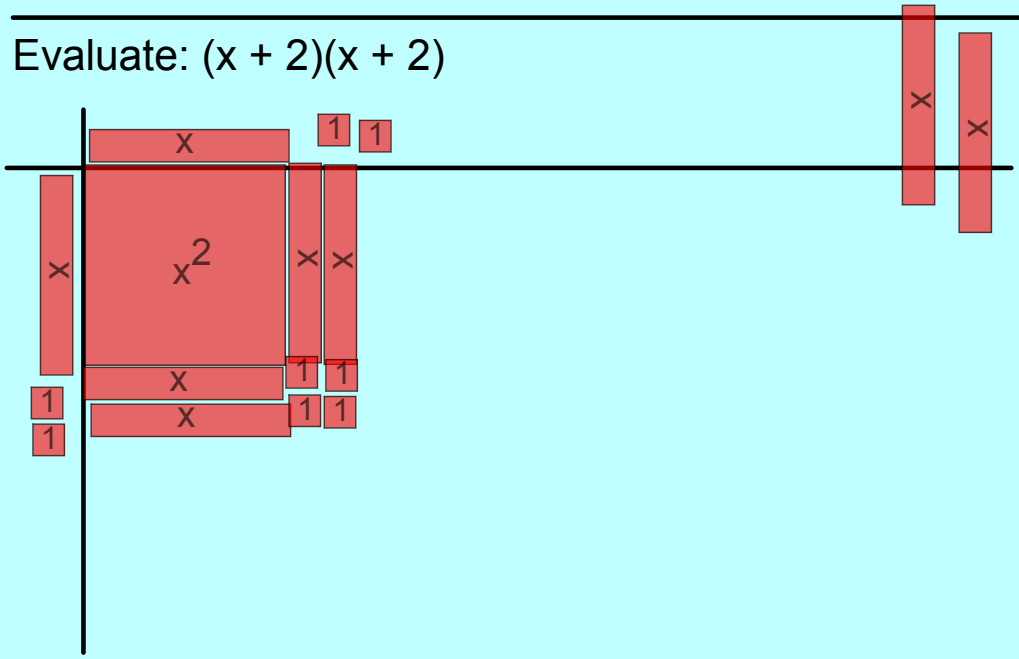
Special Products when Multiplying Binomials

March 29, 2010

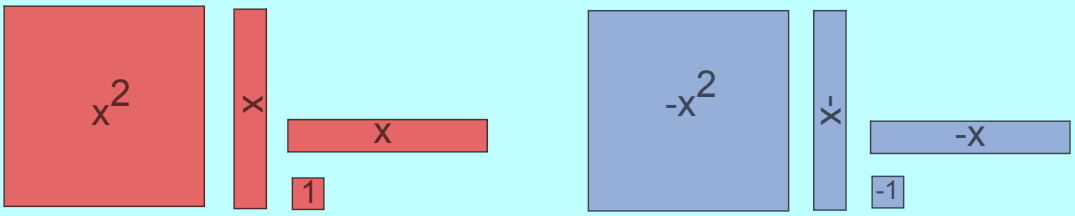
Mar 26-8:24 AM



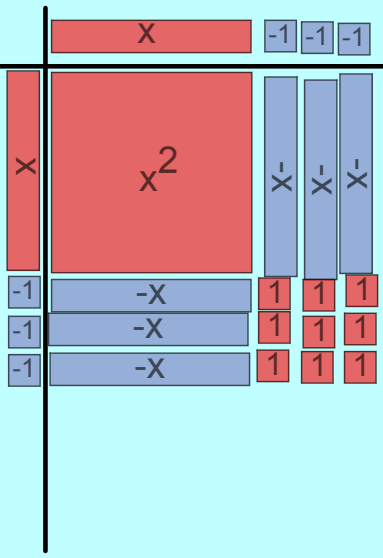
Evaluate: (x + 2)(x + 2)



Mar 25-8:02 AM



Evaluate: $(x - 3)^2$



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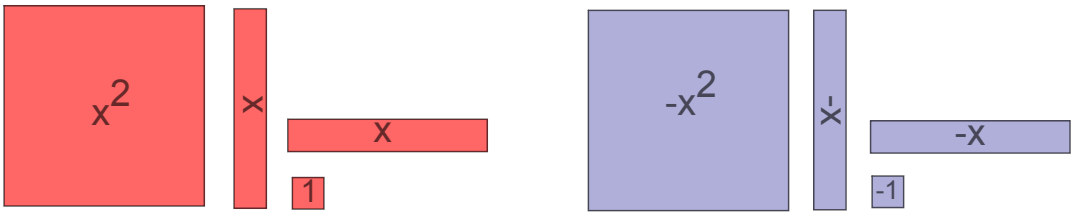

Evaluate: $(3x - 7)^2$

	$3x$	-7
$3x$	$9x^2$	$-21x$
-7	$-21x$	49

$9x^2 - 42x + 49$

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Special Products when Multiplying Binomials

1. Squaring a binomial

	a	b
a	a^2	ab
b	ab	b^2

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

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

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

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

The algebraic result is called a perfect square.

Visually, using tiles, the area is a square.

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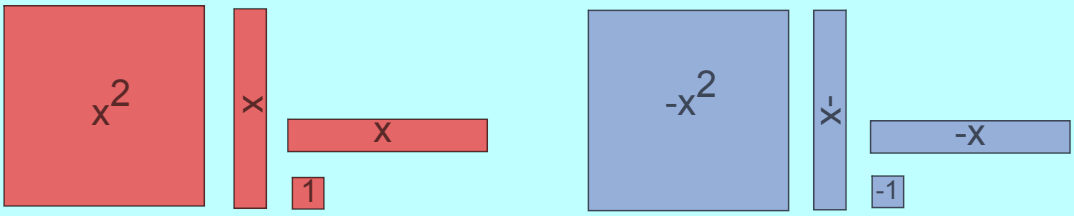
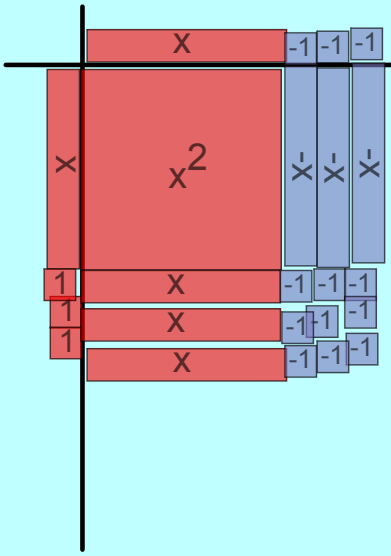


Evaluate: $(x + 3)(x - 3)$



$x^2 - 9$

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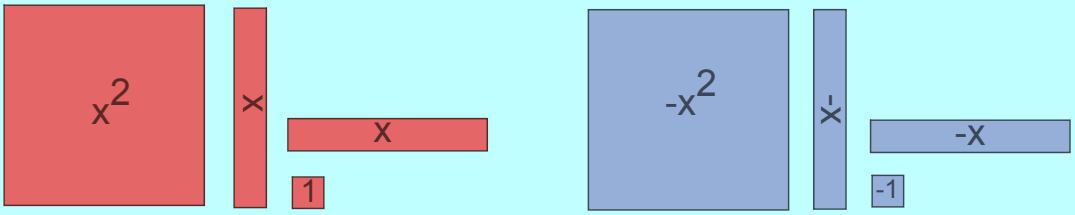

Evaluate: (3x - 4)(3x + 4)

	$3x$	$+4$
$3x$	$9x^2$	$12x$
-4	$-12x$	-16

$= 9x^2 - 16$

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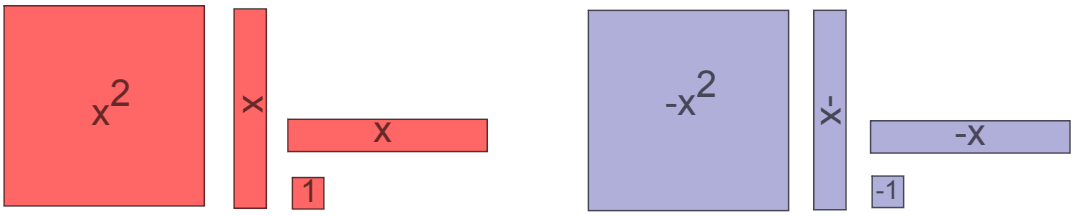

Evaluate: (2x - 5y)(2x + 5y) $= 4x^2 - 25y^2$

	$2x$	$-5y$
$2x$	$4x^2$	$-10xy$
$+5y$	$10xy$	$-25y^2$

$= 0$

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Special Products when Multiplying Binomials

2. Product of the Sum and Difference

(a + b)(a - b) = (a - b)(a + b) (order does not matter)

$= a^2 - b^2$ commutative property

The algebraic result is called a difference of squares.

Visually, the result is a square.

Note: The x-terms add to zero.

Mar 26-8:24 AM

Assigned Work:

Handout Section 3.3

5, 6, 7ace, 8adg, 9, 10

should complete in class.

Mar 26-9:06 AM