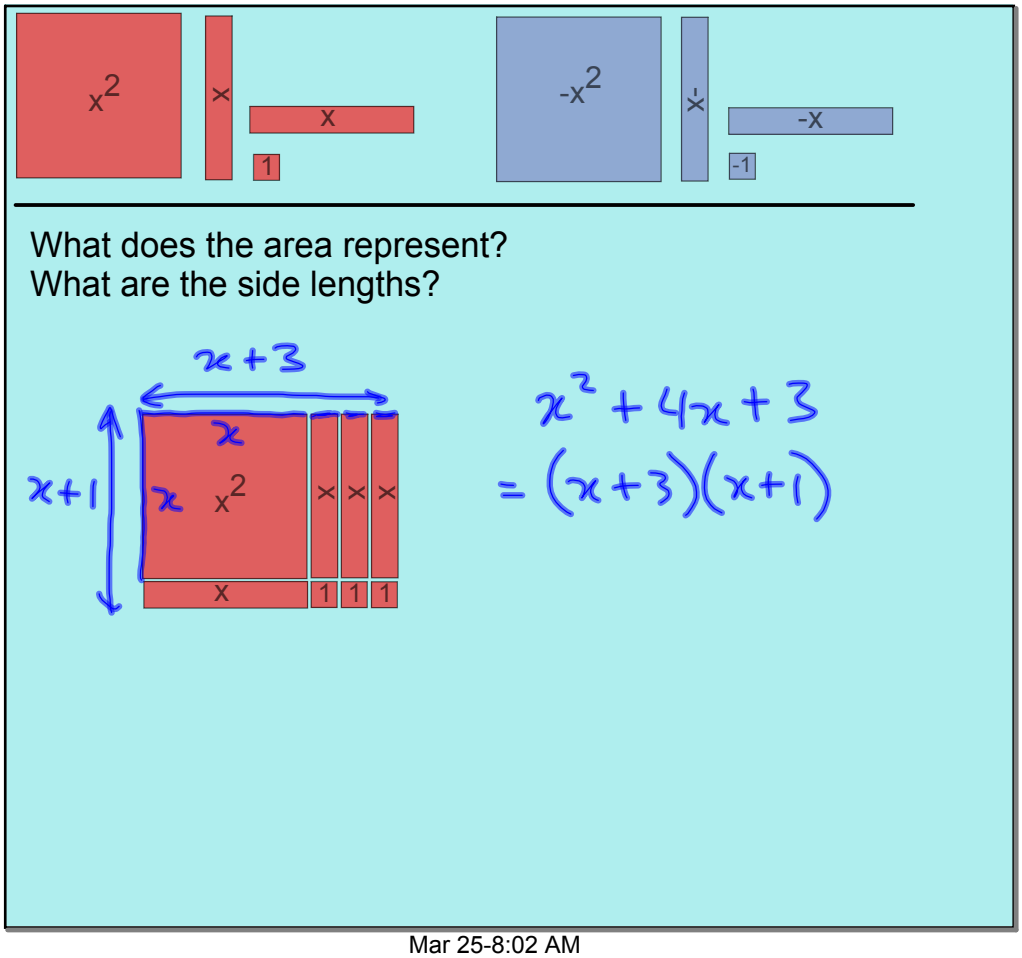
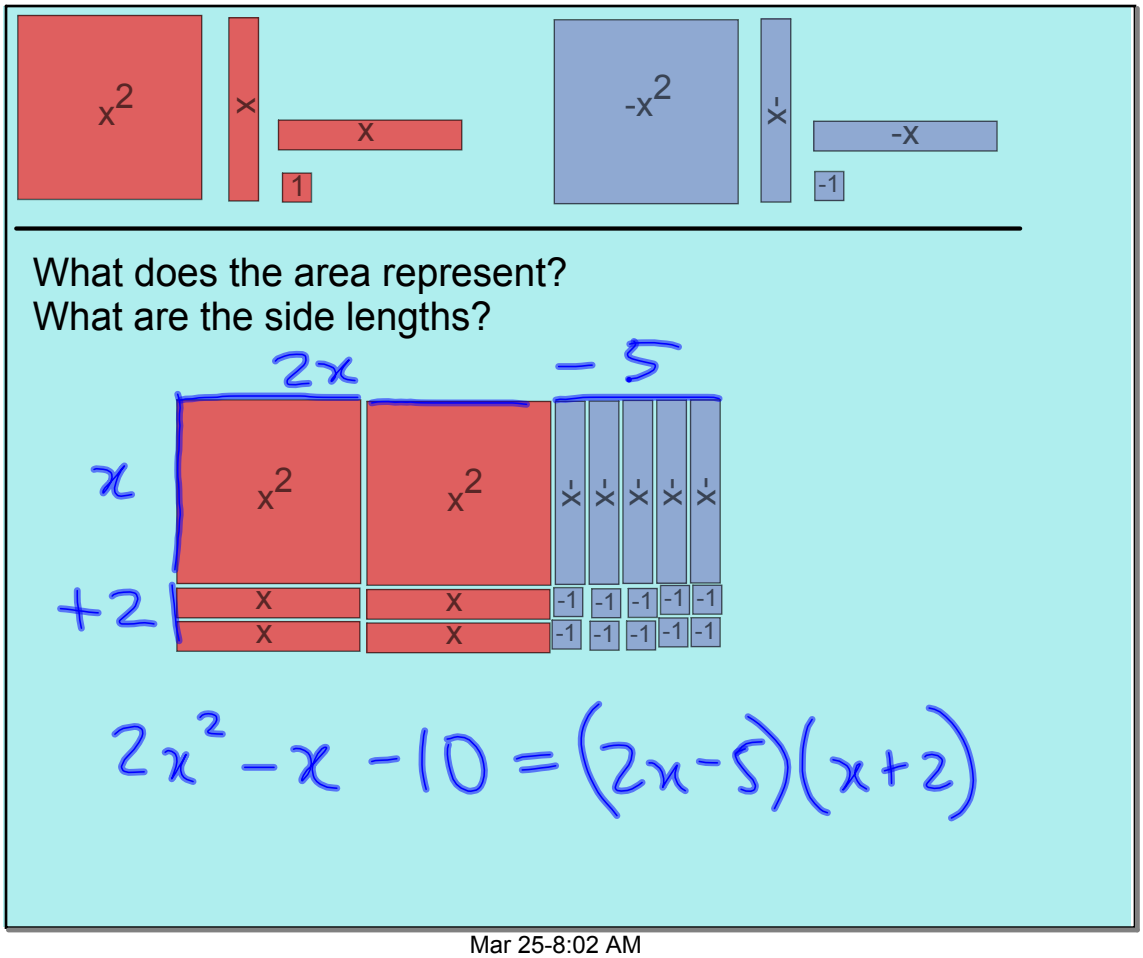


Mar 25-8:02 AM



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Multiplying Polynomials & Expanding Binomials

Oct 25/2011

Recall: Multiplying two linear terms together forms an area.

We can often represent this multiplication using algebra tiles.

On paper, we can represent this:
(a) graphically (an area model), or
(b) algebraically

Mar 26-8:24 AM

Definitions:

1. Monomial - an expression with a single term

$3x$ or 7 or $5xy$ or a^2bc^3

2. Binomial - an expression with two terms

$(2x + 5)$ or $(a + 2b)$ or $(m^2 - pq)$

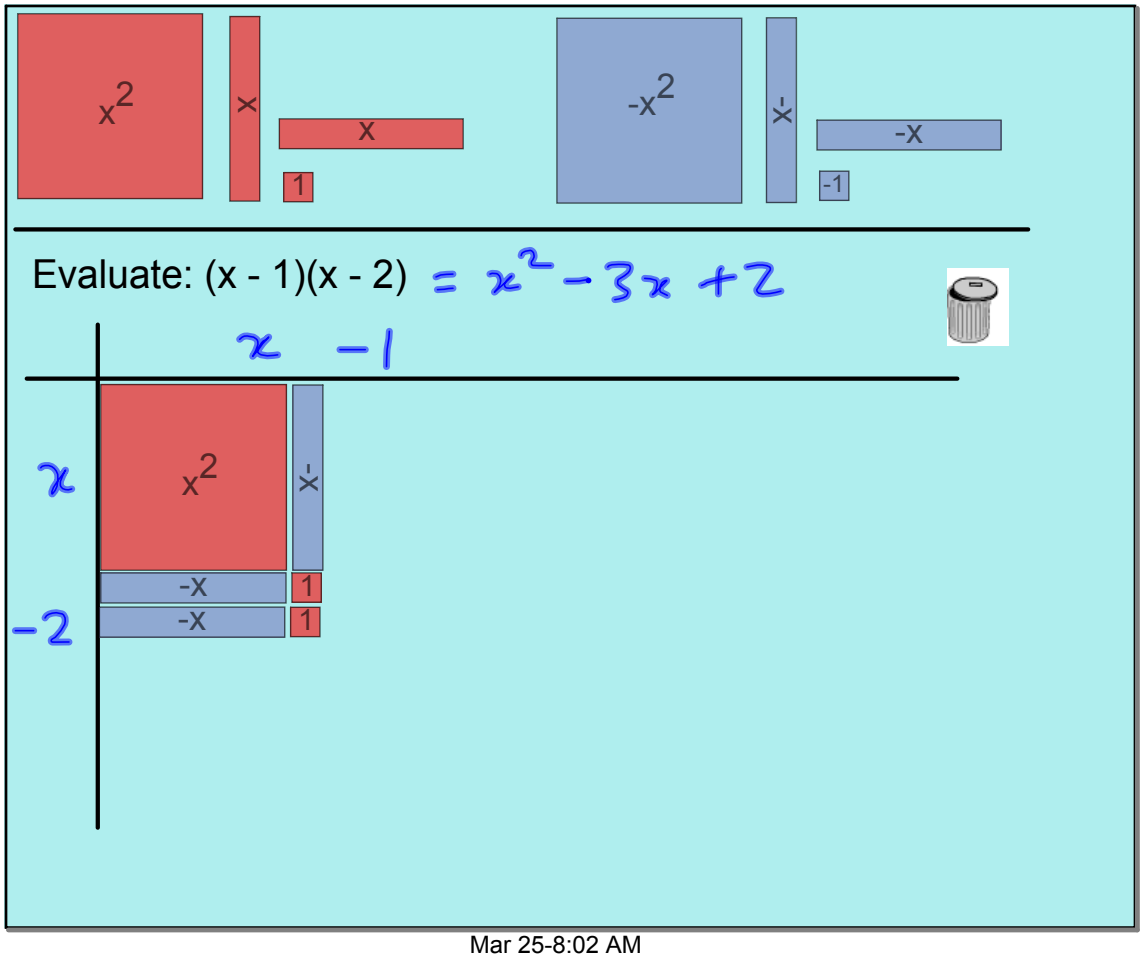
What is a term? numbers and variables multiplied or divided

3. Trinomial - an expression with three terms

$x^2 + 5x + 6$ or $2xy + a + 5$

4. Polynomial - an expression with any number of terms.

Mar 26-8:43 AM



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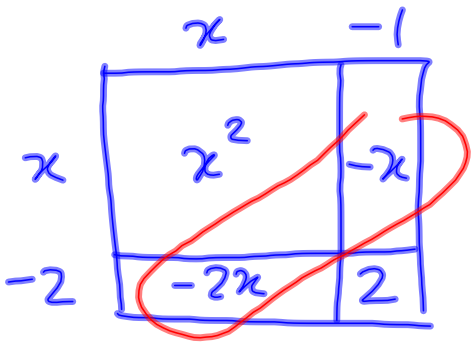
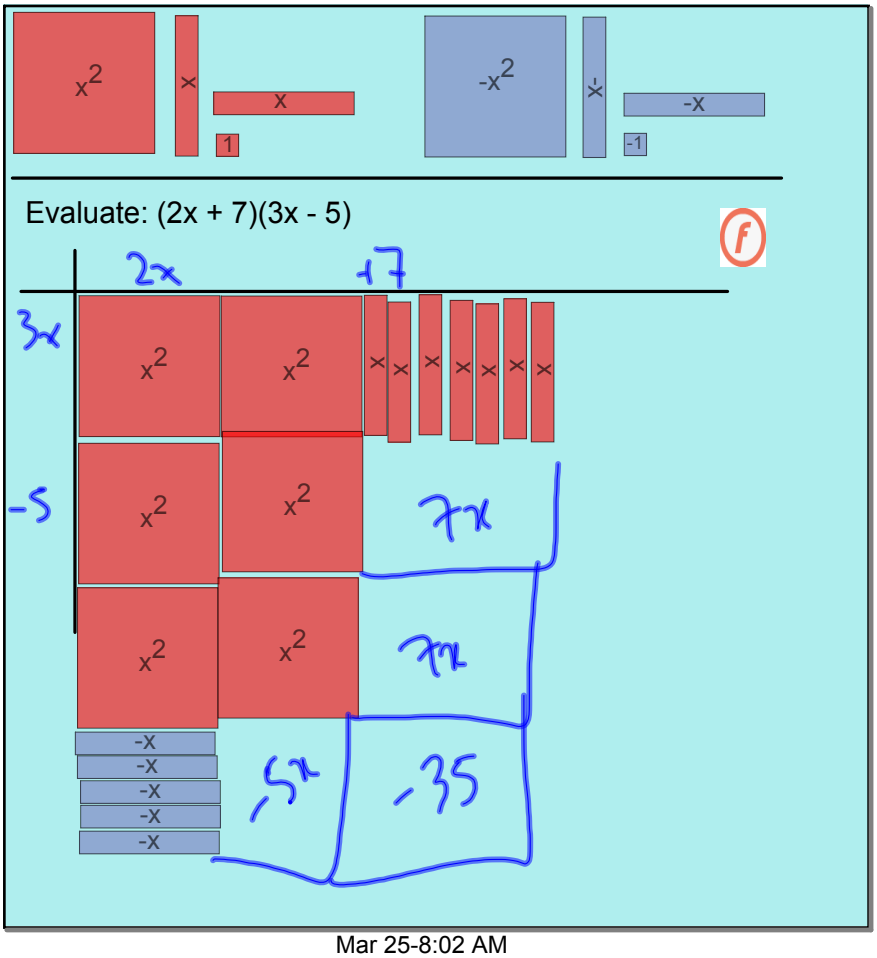
Ex.1 Evaluate using an area model

(a) $(x - 1)(x - 2) = x^2 - x - 2x + 2$

$= x^2 - 3x + 2$



Oct 24-11:29 PM



Mar 25-8:02 AM

Ex.1 Evaluate using an area model... continued

(b) (2x + 7)(3x - 5)

$= 6x^2 + 21x - 10x - 35$

$= 6x^2 + 11x - 35$

	2x	+7
3x	$6x^2$	21x
-5	-10x	-35

Oct 24-11:29 PM

Ex.2 Evaluate using the distributive property

(a) $2x(3x - 4)$

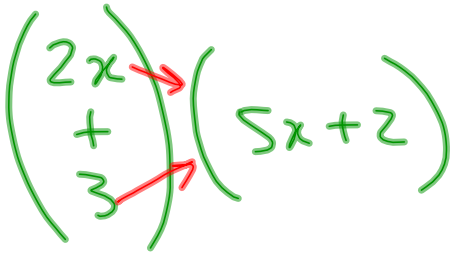
$= 6x^2 - 8x$

(b) $(2x + 3)(5x + 2)$

$= 2x(5x+2) + 3(5x+2)$

$= 10x^2 + 4x + 15x + 6$

$= 10x^2 + 19x + 6$



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Ex.3 Evaluate using FOIL (First-Outer-Inner-Last)

(a) $(3x - 5)(2x + 7)$

$= 6x^2 + 21x - 10x - 35$

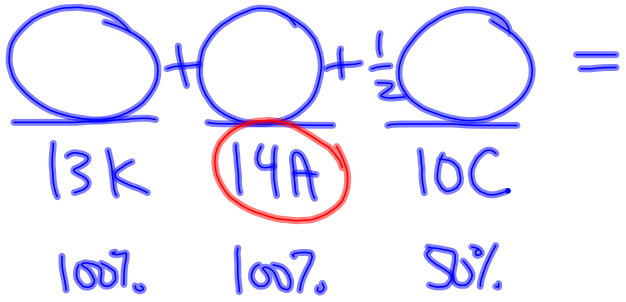
$= 6x^2 + 11x - 35$

Oct 24-11:35 PM

Assigned Work:

p.166-167 # 3 - 5 (odd)
8 - 10 (odd)

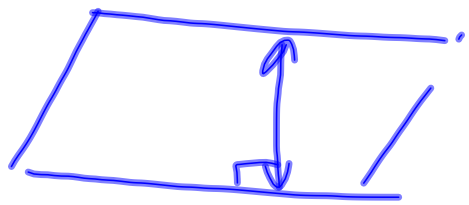
3ace...
4ace...
5ace...



$13 + 14 + 5 = 32$

Mar 26-9:06 AM

8(c)



$A = b \times h$

$= (2x-4)(5x+3)$

$= 10x^2 + 6x - 20x - 12$

$= 10x^2 - 14x - 12$

	2x	-4
5x	$10x^2$	-20x
+3	6x	-12

FOIL

Oct 26-10:28 AM

9(e)

$(4x-1)(4x+1)-(x+3)^2$

$=(4x-1)(4x+1)-(x+3)(x+3)$

	$4x$	-1
$4x$	$16x^2$	$-4x$
$+1$	$4x$	-1

	x	$+3$
x	x^2	$3x$
$+3$	$3x$	9

$=(16x^2-4x+4x-1)-(x^2+3x+3x+9)$

$=1(16x^2-1)-1(x^2+6x+9)$

$=16x^2-1-x^2-6x-9$

$=15x^2-6x-10$

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3(a) $(m+3)(m+2) = m^2+2m+3m+6$

	m	$+3$
m	m^2	$3m$
$+2$	$2m$	6

Oct 26-10:37 AM