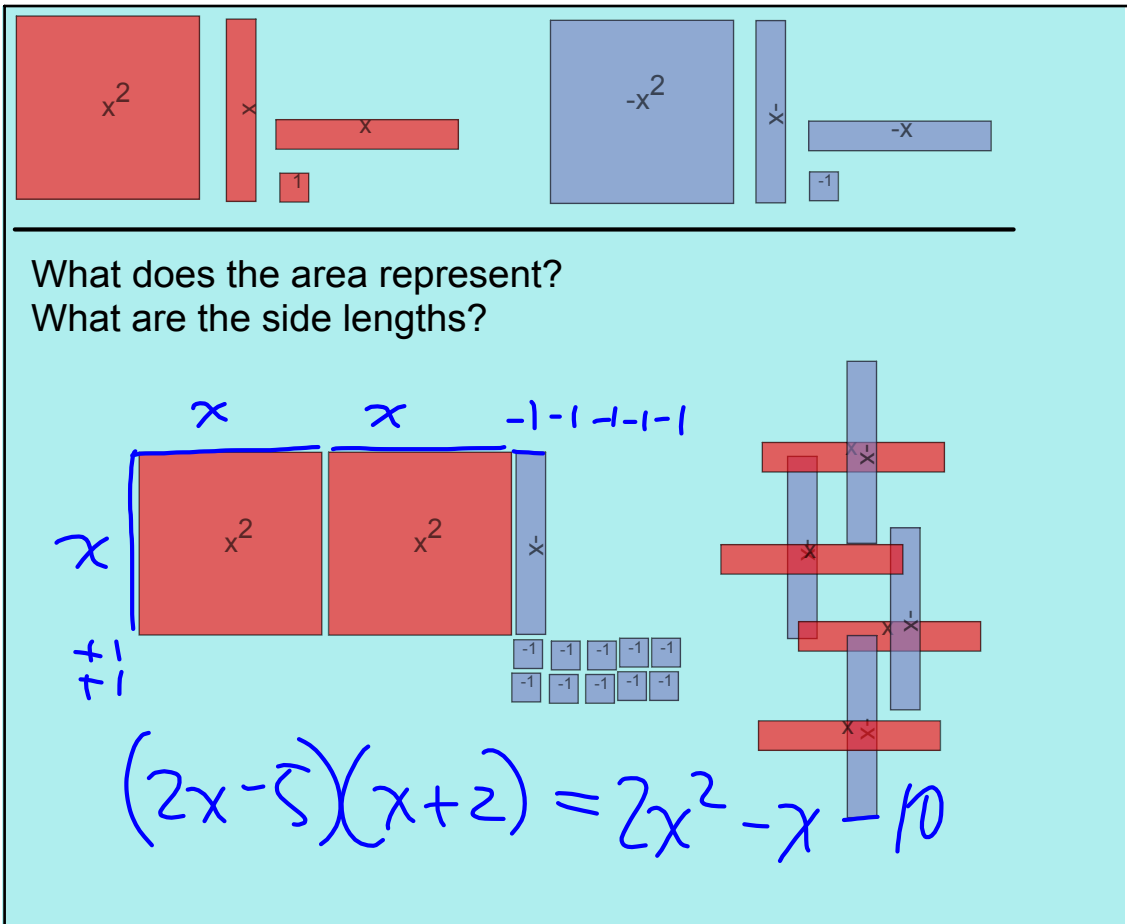What does the area represent?
What are the side lengths?

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

Mar 25-8:02 AM

What does the area represent?
What are the side lengths?

$$(2x-5)(x+2) = 2x^2 - x - 10$$

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Multiplying Polynomials & Expanding Binomials   *March 29/2016*

Recall: Multiplying two <u>linear</u> 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

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Definitions:

1. Monomial - an expression with a single term

$$3x \quad \text{or} \quad 7 \quad \text{or} \quad 5xy \quad \text{or} \quad a^2bc^3 \qquad \frac{x}{5}$$

2. Binomial - an expression with two terms

$$(2x + 5) \quad \text{or} \quad (a + 2b) \quad \text{or} \quad (m^2 - pq)$$

Examples of terms? <u>$2x \quad 5 \quad a \quad 2b \quad m^2$</u> pq

3. Trinomial - an expression with three terms

$$x^2 + 5x + 6 \quad \text{or} \quad 2xy + a + 5$$

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

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Evaluate: $(x - 1)(x - 2) = x^2 - 3x + 2$

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Ex.1 Evaluate using an area model

(a) $(x - 1)(x - 2)$

$$= x^2 - 3x + 2$$

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Evaluate: $(2x + 7)(3x - 5)$

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

(b) $(2x + 7)(3x - 5)$ $= 6x^2 + 11x - 35$

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

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Ex.2 Evaluate using the <u>distributive property</u>

(a) 2x(3x - 4)

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

$$= 6x^2 - 8x$$

	2x
3x	$6x^2$
-4	$-8x$

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

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

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

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

	$2x^2$	$+5x$	-3
x			
$+7$			

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

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

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

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

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Assigned Work:

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

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