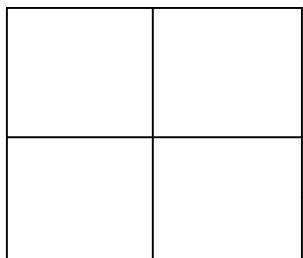


Review: There are several different methods to multiply polynomials, let us review a few of them.

1. Multiply the following:

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

Area Model



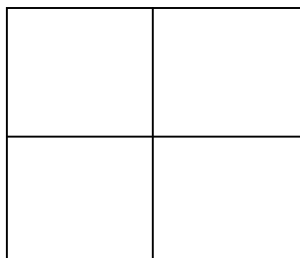
Foil

Distributing

2. Multiply the following:

$$(7x+3)(2x+1)$$

Area Model



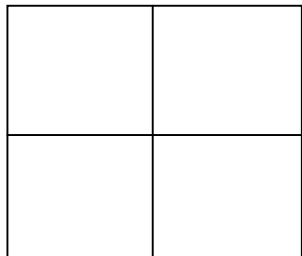
Foil

Phase 1: The following trinomials are in the form $ax^2 + bx + c$ with b and c both positive integers

1. Factor the following:

$$2x^2 + 5x + 2$$

AREA MODEL



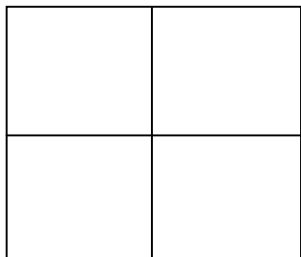
ALGEBRAIC MODEL

()()

2. Factor the following:

$$2x^2 + 15x + 7$$

AREA MODEL



ALGEBRAIC MODEL

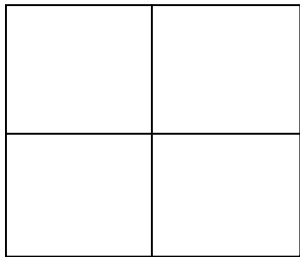
()()

Phase 2: The following trinomials are in the form ax^2+bx+c with b and c either pos/neg integers

3. Factor the following:

$$2x^2-11x+15$$

AREA MODEL



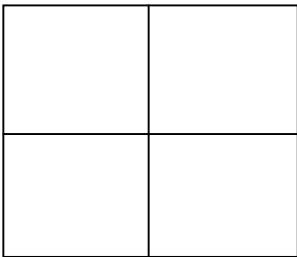
ALGEBRAIC MODEL

$$(\quad) (\quad)$$

4. Factor the following:

$$5x^2-16x+3$$

AREA MODEL



ALGEBRAIC MODEL

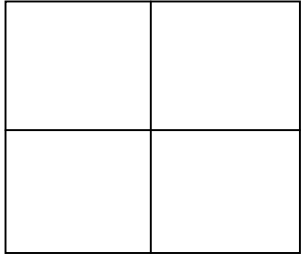
$$(\quad) (\quad)$$

Phase 3: The following trinomials are a little more challenging to factor.

5. Factor the following:

$$4x^2 - 10x - 6$$

AREA MODEL



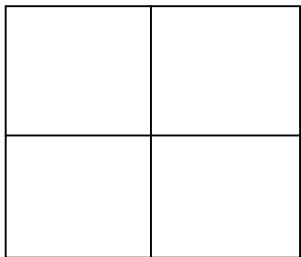
ALGEBRAIC MODEL

()()

6. Factor the following:

$$-15x^2 - 50x - 40$$

AREA MODEL



ALGEBRAIC MODEL

()()

Do all your work on another sheet of paper. Show all work!

1. Multiply the following using the generic rectangle and the foil method: What effect does changing the signs of the binomials do to the middle term of the trinomial?

a. $(3x - 2)(x - 1)$

b. $(3x + 2)(x - 1)$

c. $(3x - 2)(x + 1)$

2. Factor the following using the area model and the algebraic method:

a. $2x^2 + 5x + 3$

b. $2x^2 + 9x + 7$

c. $3x^2 + 16x + 5$

d. $3x^2 + 22x + 7$

e. $3x^2 + 14x + 8$

f. $5x^2 + 21x + 4$

3. Factor the following using the area model and the algebraic method. (a little more challenging)

a. $9x^2 + 9x + 2$

b. $4x^2 + 16x + 15$

Do all your work on another sheet of paper. Show all work!

1. Multiply the following using your favorite method: Notice that each trinomial has a lead term of $9x^2$, but the lead terms of each binomial changes!

a. $(3x - 4)(3x + 1)$

b. $(3x + 4)(3x - 1)$

c. $(x - 4)(9x + 1)$

d. $(x + 4)(9x - 1)$

d. $(3x - 2)(3x + 2)$

2. Factor the following using the area model and the algebraic method:

a. $2x^2 - 5x + 3$

b. $2x^2 + x - 3$

c. $6x^2 + x - 1$

d. $7x^2 + 10x + 3$

e. $9x^2 - 3x - 2$

3. Factor the following using your favorite method.

a. $5x^2 - 13x + 6$

b. $5x^2 + 18x - 8$

c. $10x^2 + 11x - 6$

d. $11x^2 + 16x - 5$

e. $4x^2 - 16x + 15$

Do all your work on another sheet of paper. Show all work!

1. Factor the following using the area model and the algebraic method:

a. $x^2 + 8x + 16$

b. $2x^2 + 5x + 3$

c. $6x^2 + 5x + 1$

d. $3x^2 + 13x + 4$

e. $3x^2 + 11x - 4$

2 Factor the following using your favorite method.

a. $2x^2 - 7x - 4$

b. $5x^2 - 8x + 3$

c. $4x^2 - 4x + 1$

d. $9x^2 + 12x + 4$

e. $25x^2 - 1$

3. Factor the following using your favorite method. (a little more challenging)

a. $9x^2 - 24x + 16$

b. $4x^2 - 6x - 4$

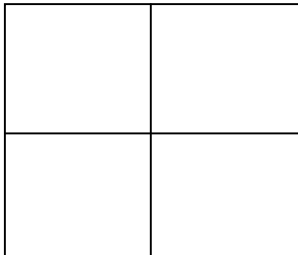
c. $-12x^2 + 6x + 18$

d. $7x^2 + 35x + 42$

e. $-250x^3 - 400x^2 - 150x$

Multiply the following:

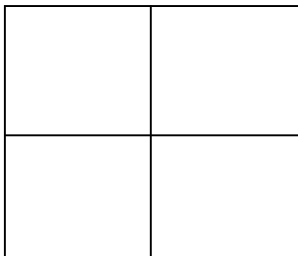
Area Method



Foil

Multiply the following:

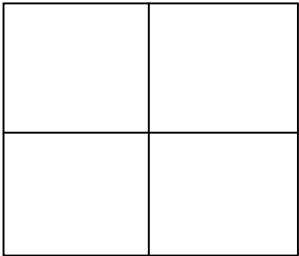
Area Method



Foil

Factor the following:

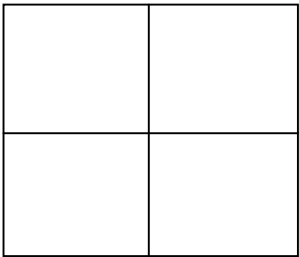
AREA MODEL



ALGEBRAIC MODEL

Factor the following:

AREA MODEL



ALGEBRAIC MODEL

