



Objective: Reviewing Multiplying Polynomials

Homework FE-1 – NYA p.507 #5 – 10, 26, 27, 33, 34 (any method)

Do Now: 1. $(2x + 1)(x - 4)$ 2. $(x + 3)(3x^2 - 5x + 4)$

Exam Prep: Which of the following is equal to $x^2 + 2x - 15$?

- A) $(x + 5)(x - 5)$ B) $(x + 5)(x - 3)$ C) $(x + 3)(x - 5)$ D) $(x + 3)(x - 3)$



REVIEWING IS IMPORTANT BEFORE BIGGER THINGS

Did you choose the box method or do you like the FOIL?

Multiplying Polynomials: Binomial x Binomial (Distributive Property with FOIL)

$$(x - 2)(x + 5) = x^2 + 3x - 10$$

FOIL is an acronym for Firsts Outers Inners Lasts

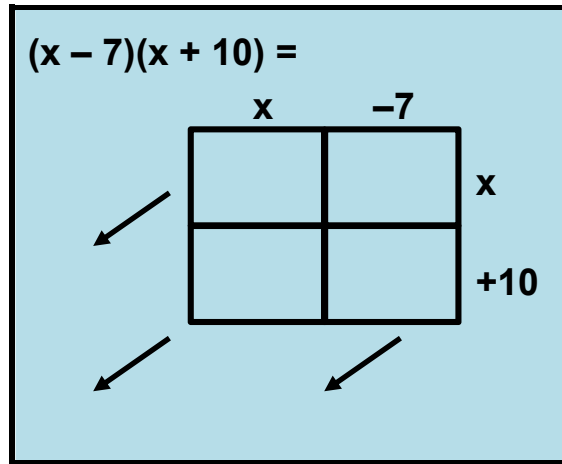
<u>F</u> irsts $\downarrow \quad \downarrow$ $(x - 2)(x + 5)$	<u>O</u> uters $\downarrow \quad \downarrow$ $(x - 2)(x + 5)$
<u>I</u> nners $\downarrow \quad \downarrow$ $(x - 2)(x + 5)$	<u>L</u> asts $\downarrow \quad \downarrow$ $(x - 2)(x + 5)$
Raw Result: $x^2 + 5x - 2x - 10$	Simplified: $x^2 + 3x - 10$



Helps with the
**DISTRIBUTIVE
PROPERTY**

$$(x - 2)(x + 5)$$

Geometric Method – Visual Guide



Practice

1. $(x + 1)(x + 5) =$	3. $(x + 3)(x - 2) =$
2. $(-x + 1)(4x - 3) =$	4. $(x - 7)(2x + 10) =$
5. $(4x^2 + x)(3x + 10) =$	6. $(6 + x)(6 - x) =$

Practice

<p>$(4x + 2)(3x - 6) =$</p>	<p>$(-3x - 1)(x + 3) =$</p>
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Extend Multiplying Polynomials: Use Distributive (binomial x trinomial)

$(x - 2)(x^2 - x + 5)$	$= x(x^2 - x + 5) - 2(x^2 - x + 5) \leftarrow \text{Don't Show}$ $= x^3 - x^2 + 5x - 2x^2 + 2x - 10$ $= x^3 - 3x^2 + 7x - 10$
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Practice

1. $(x + 5)(7x^2 - 4x + 2)$	2. $(5x - 1)(x^2 + 2x - 1)$
3. $(-2x + 1)(x^2 + x + 15)$	4. $(x + 2)(3x^2 + 2x + 10)$

Geometric Method Practice

$(x + 1)(x^2 + 6x + 2) =$ 	$(2x + 3)(x^2 - 2x + 9) =$
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Extension: Trinomial x Trinomial (use any method)

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

2. $(x^2 + x + 6)(x^2 - 2x + 3)$

Practice: More FOIL with some special cases

1. $(x + 9)^2 =$

5. $(d - 4)(d + 4) =$

2. $(k + 11)(k - 4) =$

6. $(5w - 1)(w - 1) =$

3. $(2a - 1)^2 =$

7. $(2x - 5)(4x - 10) =$

4. $(y + 2)(y + 30) =$

8. $(6a - 3)(6a + 3) =$

Extra FOIL Practice

1. $(x + 1)(x + 5) =$

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

2. $(x - 2)(x - 10) =$

5. $(x - 6)(x + 6) =$

3. $(x + 1)(x - 6) =$

6. $(x + 5)(x + 0) =$