Algebra 1 8.3

Multiply binomials using EWE

Multiply polynomials using EWE

$(2x+6)(3a-5)$

distributive property

EWE

(FOIL = FAIL)

quadratic x^2 . . .

standard form $3x^4 - 5x^3 + 8x^2 - 7x + 6$

X-factor

whiteboards

How do we multiply (old school?)
27x8
43x27

$2 \times 7 = 14$

27×8

5
2 7
× 8
56
160
216

ewe

4 3
× 2 7
21
280
60
800
1161

partial product

"each with each"

ewe

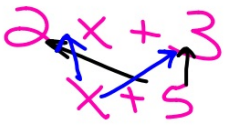
EWE

FOIL = FAIL

Example 1 The Distributive Property

Find each product.

a. $(2x + 3)(x + 5)$



$10x \quad 15$

$2x^2 + 3x$

$2x^2 + 13x + 15$

$(x + 5)(3x + 6)$

$3x + 6$

$\cdot\, x + 5$

$15x + 30$

$3x^2 + 6x$

$3x^2 + 21x + 30$

b. $(x - 2)(3x + 4)$

$$\begin{array}{r} 3x + 4 \\ x - 2 \\ \hline -6x - 8 \\ 3x^2\ \ 4x \\ \hline 3x^2 - 2x - 8 \end{array}$$

$$\begin{array}{r} x - 2 \\ 3x + 4 \\ \hline 4x - 8 \\ 3x^2 - 6x \\ \hline 3x^2 - 2x - 8 \end{array}$$

whiteboards

GuidedPractice

1A. $(3m + 4)(m + 5)$

1B. $(5y - 2)(y + 8)$

FAIL method: Use EWE

Example 2 ~~FOIL Method~~

Find each product.

a. $(2y - 7)(3y + 5)$

$2y - 7$

$3y + 5$

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b. $(4a - 5)(2a - 9)$

GuidedPractice

2A. $(x + 3)(x - 4)$

2B. $(4b - 5)(3b + 2)$

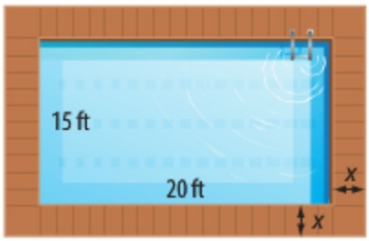
2C. $(2y - 5)(y - 6)$

2D. $(5a + 2)(3a - 4)$

FAIL

Real-World Example 3 FOIL Method

SWIMMING POOL **A contractor is building a deck around a rectangular swimming pool. The deck is x feet from every side of the pool. Write an expression for the total area of the pool and deck.**



Understand We need to find an expression for the total area of the pool and deck.

Example 4 The Distributive Property

Find each product.

a. $(6x + 5)(2x^2 - 3x - 5)$

b. $(2y^2 + 3y - 1)(3y^2 - 5y + 2)$

$2y^2+3y-1$

$3y^2+-5y+2$

$4y^2+6y-2$

3

$-10y-15y^2+5y$

$6y^4\ 9y^3-3y^2$

$6y^4-y^3-14y^2+11y-2$

GuidedPractice

4A. $(3x - 5)(2x^2 + 7x - 8)$

4B. $(m^2 + 2m - 3)(4m^2 - 7m + 5)$