Algebra 1 8.3

Multiply binomials using EWE

Multiply polynomials using EWE

distributive property

EWE

(FOIL = FAIL)

quadratic

standard form

X-factor

whiteboards

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

How do we multiply (old school?)

27x8

43x27

$$\begin{array}{r} 27 \\ \times\ 8 \\ \hline 56 \\ 160 \\ \hline 216 \end{array}$$

"each with each"

EWE

Example 1 The Distributive Property

Find each product.

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

$2x + 3$

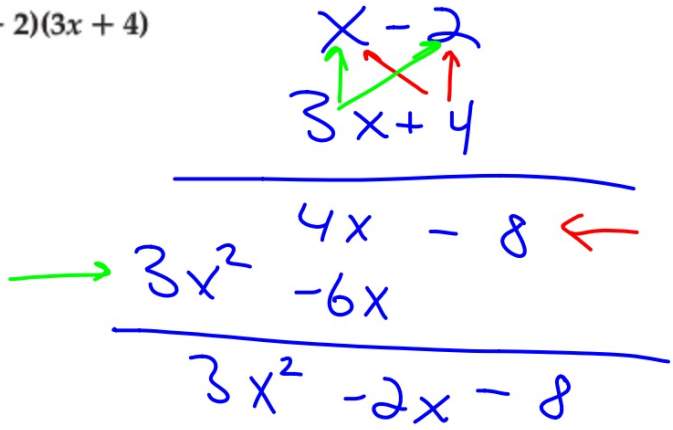
$x + 5$

$10x \quad 15$

$2x^2 + 3x$

$2x^2 + 13x + 15$

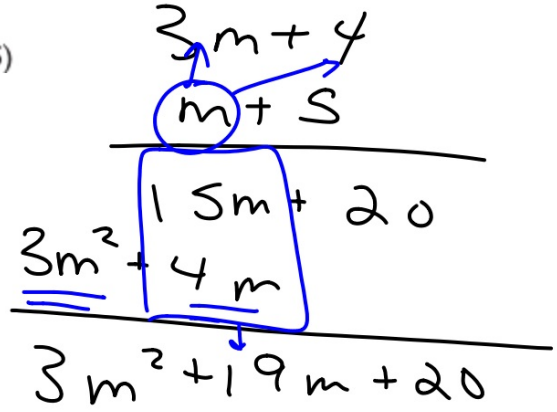
b. $(x - 2)(3x + 4)$



whiteboards

GuidedPractice

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



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

$$
\begin{array}{r}
5y - 2 \\
1y + 8 \\
\hline
40y - 16 \\
5y^2 - 2y \\
\hline
5y^2 + 38y - 16
\end{array}
$$

FAIL method: Use EWE

Example 2 FOIL Method

Find each product.

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

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

GuidedPractice

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

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

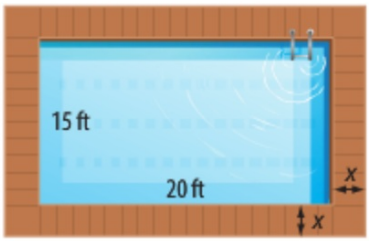
2C. $(2y - 5)(y - 6)$

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

bi tri

26×563

11) 563×26

11) $2x^2 - 3x - 5$

$6x + 5$

$10x^2$	$-15x$	-25
$-18x^2$	$-30x$	

$12x^3 - 8x^2 - 45x - 25$

$6x + 5$

$2x^2 - 3x - 5$

26×563

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

$2y^2 + 3y - 1$

$3y^2 - 5y + 2$

$4y^2 + 6y - 2$

$-10y^3 - 15y^2 + 5y$

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

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

$3y^2 - 5y + 2$

$2y^2 + 3y - 1$

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

$9y^3 - 15y^2 + 6y$

$6y^4 - 10y^3 + 4y^2$

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

GuidedPractice

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

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