Algebra 1 8.3

Multiply binomials using EWE

Multiply polynomials using EWE

distributive property

EWE

(FOIL – FAIL)

quadratic

standard form

X-factor

whiteboards

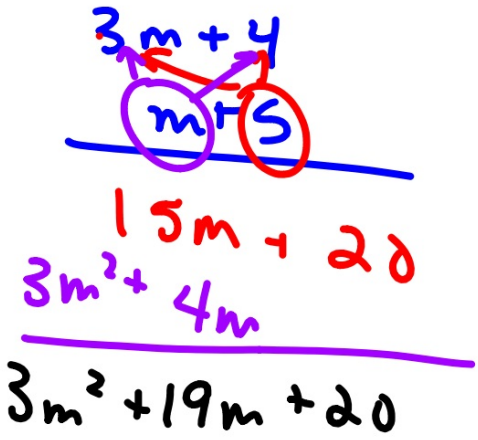
$(x+3)\cdot(x-5)$

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

whiteboards

GuidedPractice

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



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

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

FAIL method: Use EWE

Example 2 FOIL Method

Find each product.

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

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

$$\begin{array}{r} 4a-5 \\ 2a-9 \\ \hline -36a+45 \\ 8a^2-10a \\ \hline 8a^2-46a+45 \end{array}$$

GuidedPractice

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

$x + 3$

$x - 4$

$-4x + -12$

$x^2 + 3x$

$x^2 + -x + -12$

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

$4b - 5$

$3b + 2$

$8b + -10$

$12b^2 - 15b$

$12b^2 - 7b - 10$

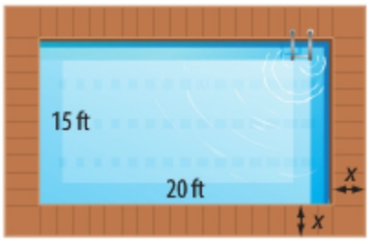
2C. $(2y - 5)(y - 6)$

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

$2x^2 - 3x - 5$

$6x + 5$

$10x^2 - 15x - 25$

$12x^3 - 18x^2 - 30x$

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

$x^2 - 3x + 7$

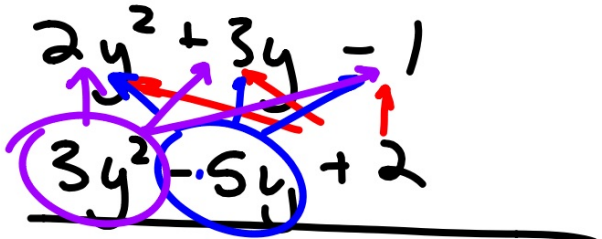
$2x + 3$

$3x^2 - 9x + 21$

$2x^3 - 6x^2 + 14x$

$2x^3 - 3x^2 + 5x + 21$

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



$4y^2+6y-2$

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

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

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

( )·( )

$3x^2-2x+6$

$x+5$

$15x^2-10x+30$

$3x^3-2x^2+6x$

$3x^3+13x^2+4x+30$

GuidedPractice

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

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