

Algebra 10-5 Multiplying Binomials**Warm-Up**

Simplify.

1. $6x(2x)$

$= 12x^2$

2. $11x^2(5x)$

$55x^3$

3. $(3y)(-5y)(-y^2)$

$15y^4$

4. $-9r(5r^4)$

$-45r^5$

Algebra 10-5 Multiplying Binomials

1. Create a box. Simplify

	c	d
a	ac	ad
b	cb	bd

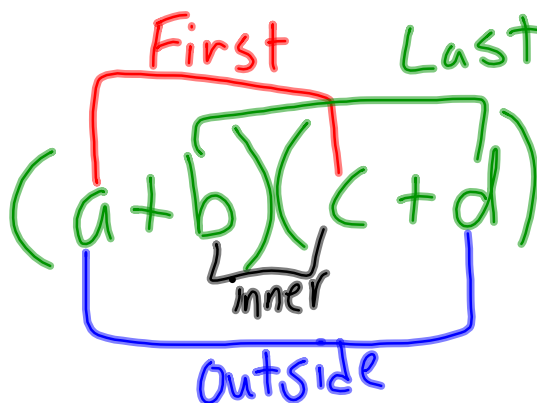
2 Methods

$$(c+d)(a+b)$$

$$ac + ad + cb + bd$$

2. Multiply then simplify.

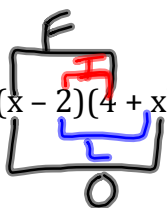
- F first
- O Outside
- I Inner
- L Last



Examples

FOIL

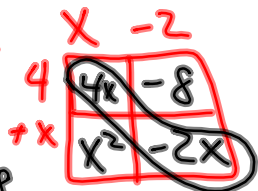
1. Multiply $(x - 2)(4 + x)$.



$$\underline{4x} + x^2 + \underline{-8} - \underline{2x}$$

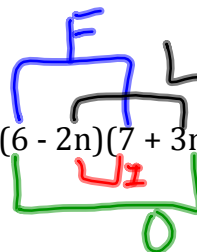
$$x^2 + 2x - 8$$

Check:



$$\underline{x^2 + 2x - 8}$$

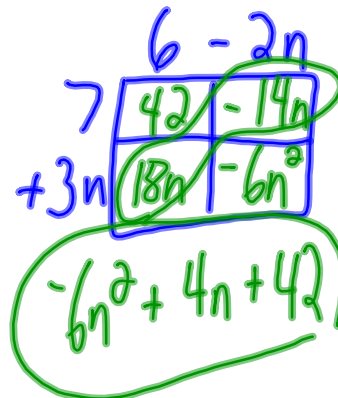
2. Multiply $(6 - 2n)(7 + 3n)$.



$$42 + 18n - 14n - 6n^2$$

$$-6n^2 + 4n + 42$$

Check:



$$-6n^2 + 4n + 42$$

Assignment: 10-5 #'s 1-4, 7-15, 18, 22, 23