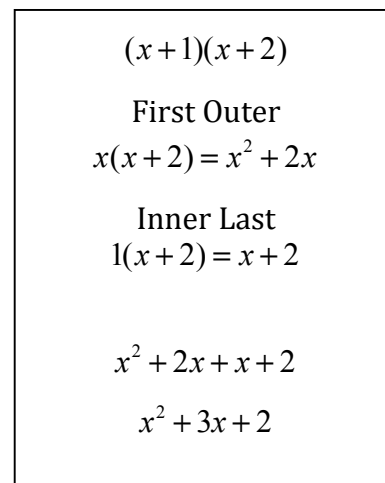
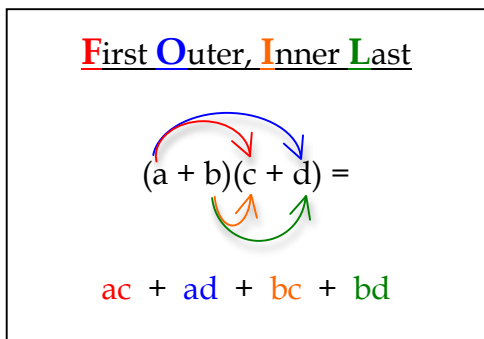


When you multiply polynomials in \_\_\_\_\_ form, the product is a polynomial in \_\_\_\_\_ form.

**Method 1: FOIL**



**Distribute, Distribute, Distribute!**

× Multiply the coefficients  
 + Add the exponents of powers with the same base

**Combine Like Terms!**

**Let's Practice**

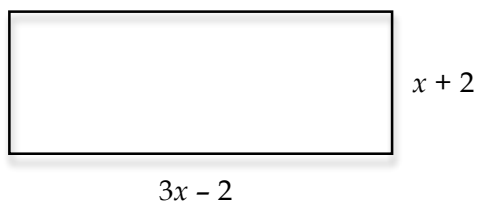
1.  $-5x(6x + 1)$

2.  $(6s + 4)(-2s - 5)$

3.  $(-9r + 3)(3r + 4)$

4.  $(10n - 6)(-4n^2 + n - 8)$

5. Find the area of the rectangle.



## Method 2: Area Models

Another way to multiply polynomials is to use an area model.

### Example

$$(x+1)(x+2)$$

•	$x$	$+2$
$x$		
$+1$		

- ♦ Write each term of one polynomial in a separate box in column 1.
- ♦ Write each term of the other polynomial in a separate box in row 1.
- ♦ Multiply each term in the 1<sup>st</sup> row by each term in the 1<sup>st</sup> column and write each product in the other boxes.
- ♦ Combine like terms.

### *Let's Practice*

6.  $3x(4x+1)$

•	$4x$	$+1$
$3x$		

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

•	$2x$	$+3$
$x$		
$-4$		

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

•	$4x^2$	$+3x$	$7$
$5x^3$			

9.  $(x+5)(2x^2-3x-4)$

•	$2x^2$	$-3x$	$-4$
$x$			
$+5$			