Name:_____

Algebra II: The FOIL Method

The FOIL Method

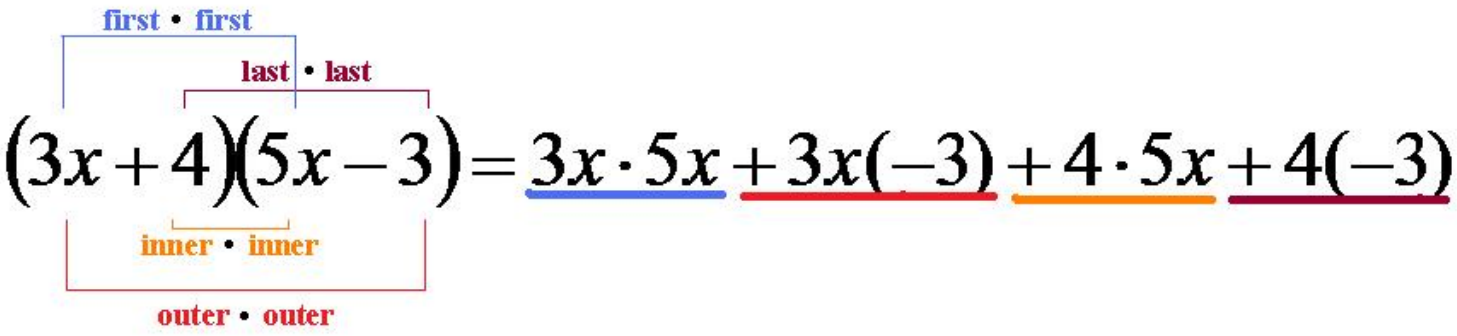
Define the following terms:

Polynomial

Binomial

The FOIL Method:

F_____ O_____ I_____ L_____



Expand the following products of binomials:

$(x+3)(x+4)$

$(2-5x)(3-4x)$

$(x+4)(x+6)$

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

$(4y+3)(y-1)$

$(4y-5)(7y-4)$

$(6x-5)(2-x)$

$(7-2y)(10-3y)$

$(3x-5)(x+7)$

Using the FOIL Method With Higher Exponents

Recall the following properties of exponents (written below) when expanding these products:

$$a^n \cdot a^m = a^{n+m}$$

$$\left(a^n\right)^m = a^{nm}$$

$$\left(5x^2 - 4\right)\left(3x^2 - 7\right)$$

$$\left(7x^2 - 2\right)\left(3x^2 - 5\right)$$

$$\left(x + 5\right)\left(x^2 + 3\right)$$

$$\left(8x^3 + 3\right)\left(x^2 + 5\right)$$

$$\left(7x^3 + 5\right)\left(x^2 + 2\right)$$

Special Cases of the FOIL Method

$(A+B)^2 = (A+B)(A+B) =$

Note: $(A+B)^2 \neq A^2 + B^2$! Use the FOIL Method to expand it!

$(A-B)^2 = (A-B)(A-B) =$

Note: $(A-B)^2 \neq A^2 - B^2$! Use the FOIL Method to expand it!

$(A+B)(A-B) =$

Expand the following products:

$(x+3)(x-3)$

$(y+5)(y-5)$

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

$(5z-2)(5z+2)$

$(3-r)(3+r)$

$\left(2x+\frac{1}{2}\right)\left(2x-\frac{1}{2}\right)$

$(x-3)^2$

$(2x+5)^2$

$(3y-4)^2$

$(7-2x)^2$

$\left(2y+\frac{1}{2}\right)^2$

$\left(4y-\frac{1}{4}\right)^2$