DO NOW

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

$2m^2+6m-7m-21$

$\boxed{2m^2-m-21}$

6.4 Multiplying Polynomials - Day 2

FOIL is used for: multiplying 2 BINOMIALS

***Examples*:**

1. $(a+b)^2$

$(a+b)(a+b)$

$a^2+ab+ab+b^2$

$\boxed{a^2+2ab+b^2}$

2. $(y-5)^2$

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

$y^2-5y-5y+25$

$\boxed{y^2-10y+25}$

Multiplying a binomial and polynomial (not a binomial)

** "SUPERFOIL"

Multiply each term in 1st ( ) by each term in 2nd ( )

***Examples*:**

3. $(2c+1)(2c^2-3c+1)$

$2c(2c^2)+2c(-3c)+2c(1)+1(2c^2)+1(-3c)+1(1)$

$4c^3-6c^2+2c+2c^2-3c+1$

$\boxed{4c^3-4c^2-c+1}$

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

$x^2(x)+x^2(-3y)+3xy(x)+3xy(-3y)+9y^2(x)+9y^2(-3y)$

$x^3-3x^2y+3x^2y-9xy^2+9xy^2-27y^3$

$\boxed{x^3-27y^3}$

5. $\underbrace{(2x+1)(3x-4)}_{\text{FOIL}}(x+3)$

$\underbrace{(\text{trinomial})(x+3)}_{\text{"SUPER FOIL"}}$

6. $\underbrace{(x+4)(x+3)}_{\text{FOIL}}-\underbrace{(x-2)(x-5)}_{\text{FOIL}}$

In parentheses → (trinomial) − (trinomial)

drop ( ) keep signs

drop ( ) change signs

HOMEWORK

Worksheet - HW 6.4 Multiplying Binomials - Day 2