Examples

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

2. $(m+3)(m-3)$
$m^2 - 3m + 3m - 9$
$m^2 - 9$

3. $(x+5)^2$
$(x+5)(x+5)$
$x^2 + 5x + 5x + 25$
$x^2 + 10x + 25$

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

5. $(6w-1)^2$
$(6w-1)(6w-1)$
$36w^2 - 6w - 6w + 1$
$36w - 12w + 1$

6. $(-x+3y)(6x+7y)$
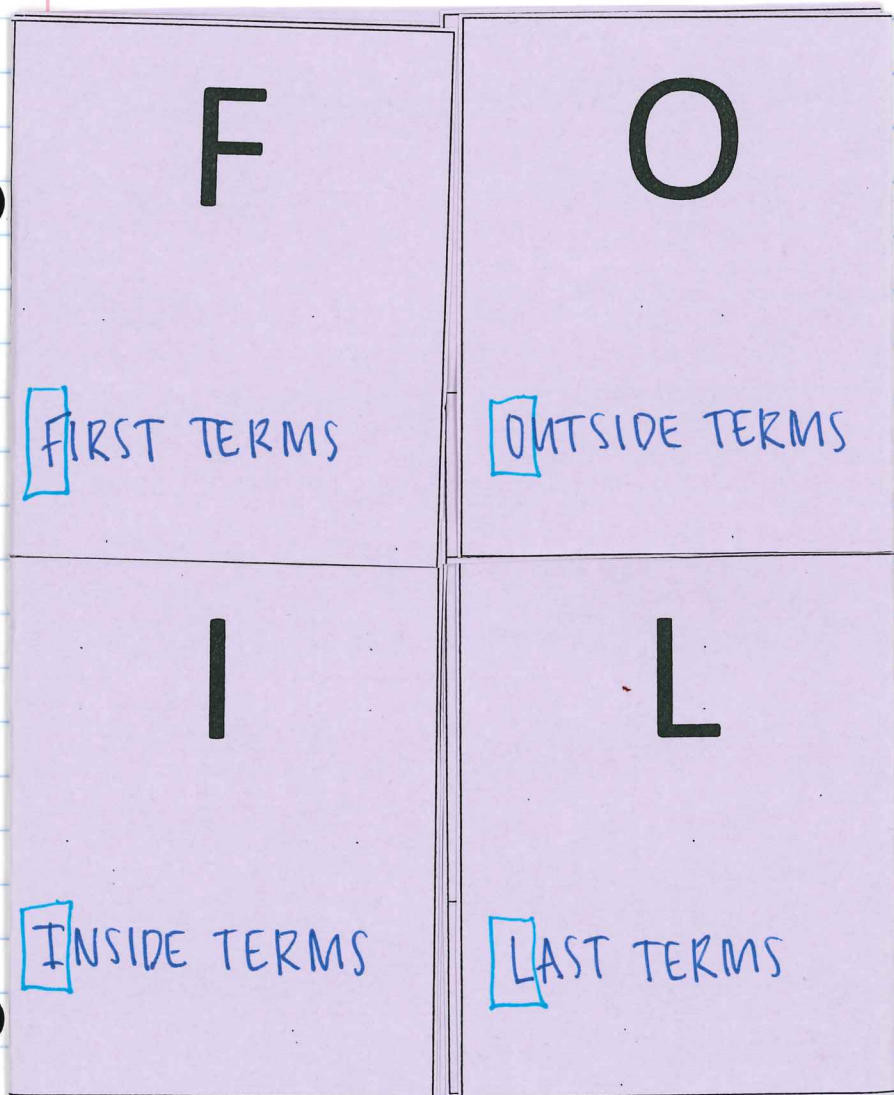$-6x^2 - 7xy + 18xy + 21y^2$
$-6x^2 + 11xy + 21y^2$

Multiplying Binomials

Binomial: polynomial with 2 terms

$$(x+2)(2x^2-4)$$

* to multiply binomials, multiply each term in the 1st binomial by every term in the 2nd binomial. DISTRIBUTE!

FOIL

F	**O**
[F]IRST TERMS	[O]UTSIDE TERMS
I	**L**
[I]NSIDE TERMS	[L]AST TERMS

BE CAREFUL!!

$$(x+2)^2 \neq x^2+4$$

$$(x+2)^2 = (x+2)(x+2)$$
$$= x^2+2x+2x+4$$
$$= x^2 + 4x +4$$

$$(x+3y)(4x-6y)$$
$$4x^2-6xy+12xy-18y^2$$
$$4x^2+6xy-18y^2$$

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$(9a - 8)(7a + 4)$

$63a^2 + 36a - 56a - 32$

$$\boxed{63a - 20a - 32}$$

$(6h - 7)(2h + 3)$

$12h^2 + 18h - 14h - 21$

$$\boxed{12h^2 + 4h - 21}$$

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

$6x^2 - 9x + 8x - 20$

$$\boxed{6x^2 - x - 20}$$

$(5m + 2)(8m - 1)$

$40m^2 - 5m + 16m - 2$

$$\boxed{40m^2 + 11m - 2}$$