

DO NOW

$$a(x + 4)$$

$$\boxed{ax + 4a}$$

6.4 Multiplying Polynomials

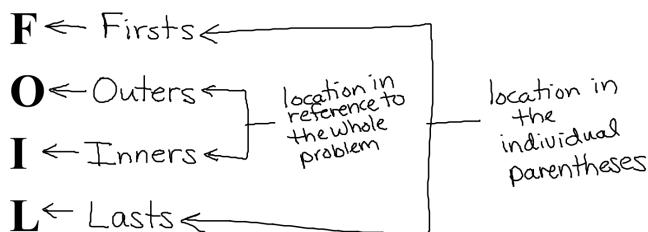
The Do Now was $a(x + 4)$

* distribute

$$\text{let } a = x + 3$$

$$\begin{aligned} \text{Then we have } & (x+3)(x+4) \\ & (x+3)(x) + (x+3)(4) \quad \text{Distributive} \\ & x(x+3) + 4(x+3) \quad \text{Commutative} \\ & x(x) + x(3) + 4(x) + 4(3) \quad \text{Distribute} \\ & F + I + O + L \\ & x^2 + 3x + 4x + 12 \\ & \boxed{x^2 + 7x + 12} \end{aligned}$$

FOIL ~ can ONLY be used to
MULTIPLY TWO BINOMIALS



Order of operations - multiply/divide

Examples:

$$1. (y-2)(y+5)$$

$$F+O+I+L$$

$$y(y)+y(5)-2(y)-2(5)$$

$$y^2 + 5y - 2y - 10$$

$$\boxed{y^2 + 3y - 10}$$

$$3. (4x+5)(3x-4)$$

$$12x^2 - 16x + 15x - 20$$

$$\boxed{12x^2 - x - 20}$$

$$5. (c+6)(c-6)$$

$$c^2 - 6c + 6c - 36$$

$$\boxed{c^2 - 36}$$

$$2. (x-8)(x+2)$$

$$x(x) + x(2) - 8(x) - 8(2)$$

$$x^2 + 2x - 8x - 16$$

$$\boxed{x^2 - 6x - 16}$$

$$4. (2m+7)(m+3)$$

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

$$\boxed{2m^2 + 13m + 21}$$

HOMEWORK

Worksheet - HW 6.4 Multiply Binomials