9.3 Multiplying Binomials

In 9.2 we multiplied monomials by binomials and trinomials.

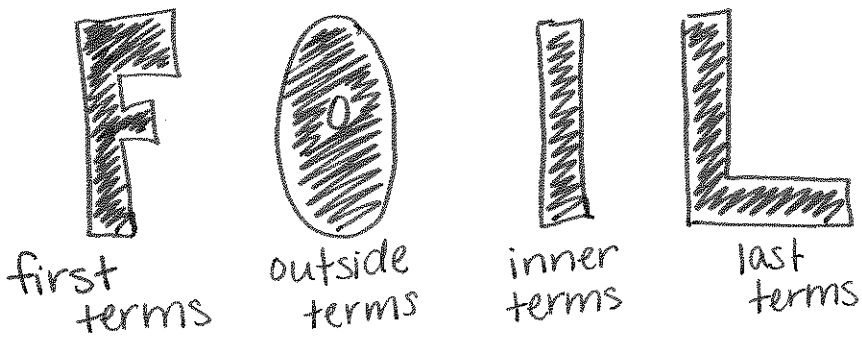
1. $3a(4a-2)$

$12a^2-6a$

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

$-6x^5-12x^3+10x^2$

*You can also use distributive property to multiply 2 binomials using FOIL.



1. $(6h-7)(2h+3)$

F $6h \cdot 2h = 12h^2$

O $6h \cdot 3 = 18h$

I $-7 \cdot 2h = -14h$

L $-7 \cdot 3 = -21$

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

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

F $5m \cdot 2m = 10m^2$

O $5m \cdot -1 = -5m$

I $2 \cdot 2m = 4m$

L $2 \cdot -1 = -2$

$\boxed{10m^2 - m - 2}$

3. $(9a-8)(2a+4)$

F $9a \cdot 2a = 18a^2$

O $9a \cdot 4 = 36a$

I $-8 \cdot 2a = -16a$

L $-8 \cdot 4 = -32$

$\boxed{18a^2 + 20a - 32}$

4. $(2h-4)(5h+3)$

F $2h \cdot 5h = 10h^2$

O $2h \cdot 3 = 6h$

I $-4 \cdot 5h = -20h$

L $-4 \cdot 3 = -12$

$\boxed{10h^2 - 14h - 12}$

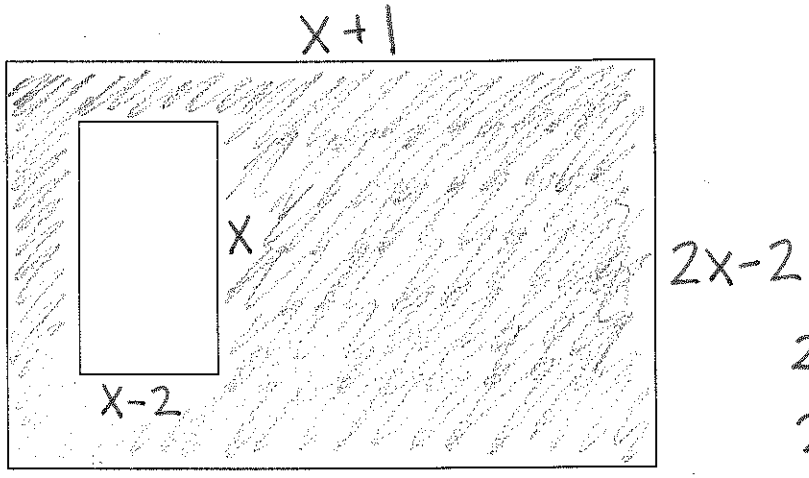
9.3 Notes

Geometric Figures

Find the area of the shaded region:

area = $l \cdot w$

1.



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

$2x^2 - 2 \Rightarrow$ area of big

$(x)(x-2)$

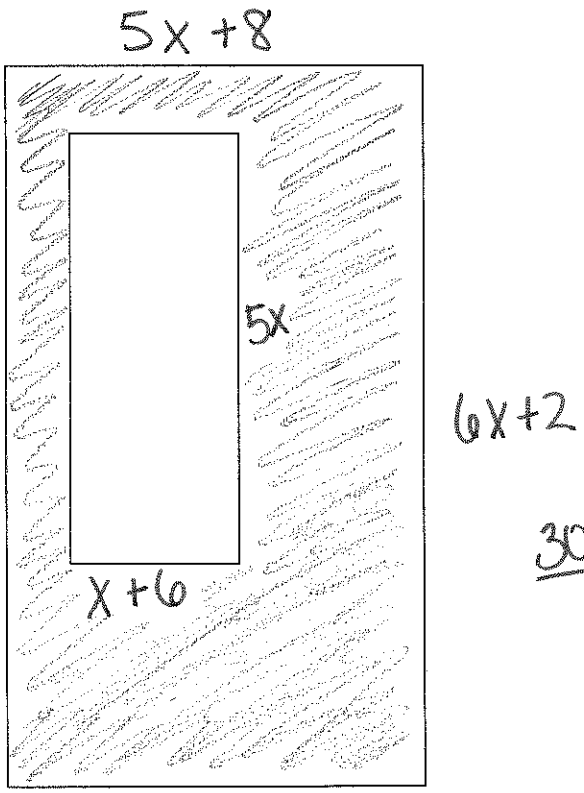
$x^2 - 2x \Rightarrow$ area of small

$2x^2 - 2 - (x^2 - 2x)$

$2x^2 - 2 - x^2 + 2x$

$\boxed{x^2 + 2x - 2}$

2.



$(5x+8)(6x+2)$

$30x^2 + 10x + 48x + 16$

$30x^2 + 58x + 16 \leftarrow$ area of big

$5x(x+6)$

$5x^2 + 30x \leftarrow$ area of small

$30x^2 + 58x + 16 - 5x^2 - 30x$

$\boxed{25x^2 - 22x + 16}$