Warm-up 2/7

Solve each polynomials using distributive property for #1, FOIL, for #2, and box method for #3.

1. $(2x^2)(4x^4 - x^2 + 7)$

2. $(x + 4)(2x - 5)$

3. $(3y - 4)^2$

Warm-up 2/7

Solve each polynomials using distributive property for #1, FOIL, for #2, and box method for #3.

1. $(2x^2)(4x^4 - x^2 + 7)$

$2x^2(4x^4) + 2x^2(-x^2) + 2x^2(7)$

$8x^6 - 2x^4 + 14x^2$

2. $(x + 4)(2x - 5)$

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

$2x^2 - 5x + 8x - 20$

$2x^2 + 3x - 20$

3. $(3y - 4)^2$

$(3y - 4)(3y - 4)$

	$3y$	-4
$3y$	$9y^2$	$-12y$
-4	$-12y$	16

$9y^2 - 12y - 12y + 16$

$9y^2 - 24y + 16$

Warm-up 2/7

Solve each polynomials using distributive property for #1, FOIL, for #2, and box method for #3.

1. $(2x^2)(4x^4 - x^2 + 7)$

$2x^2(4x^4) - 2x^2(x^2) + 2x^2(7)$

$8x^6 - 2x^4 + 14x^2$

2. $(x + 4)(2x - 5)$

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

$2x^2 + -5x + 8x + -20$

$2x^2 + 3x - 20$

3. $(3y - 4)^2$

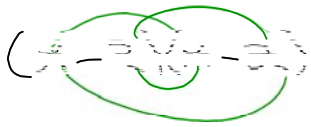
$(3y-4)(3y-4)$

	$3y$	-4
$3y$	$9y^2$	$-12y$
-4	$-12y$	$+16$

$9y^2 - 12y - 12y + 16$

$9y^2 - 24y + 16$

#15 $(x-2)^2$



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

$x^2 - 2x - 2x + 4$

$x^2 - 4x + 4$

Today's Goal

I can

- multiply monomial and polynomial expressions using the distributive method
- multiply 2 binomials using FOIL, distributive, and rectangle/box method

Section 8.3b: Multiplying Polynomials

Distributive Method

$(5x + 3)(2x + 10)$

$2x(5x+3) + 10(5x+3)$

$2x(5x) + 2x(3) + 10(5x) + 10(3)$

$10x^2 + 6x + 50x + 30$

$10x^2 + 56x + 30$

Distributive Method

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

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

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

$x^3 + 5x^2 + 2x^2 + 10x - 3x - 15$

$x^3 + 7x^2 + 7x - 15$

Section 8.3b: Multiplying Polynomials

First
Outside
Inside
Last

FOIL

$(5x + 3)(2x + 10)$

$5x(2x) + 5x(10) + 3(2x) + 3(10)$

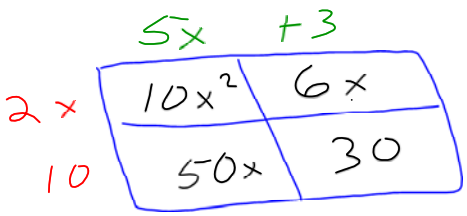
$10x^2 + 50x + 6x + 30$

$10x^2 + 56x + 30$

Section 8.3b: Multiplying Polynomials

Box/Rectangle Method

$$(5x + 3)(2x + 10)$$



$10x^2 + 6x + 50x + 30$

$10x^2 + 56x + 30$

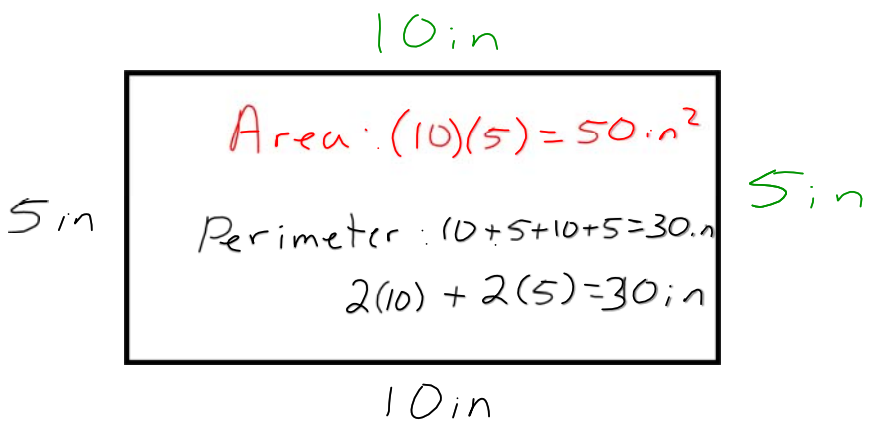
Rectangle Method

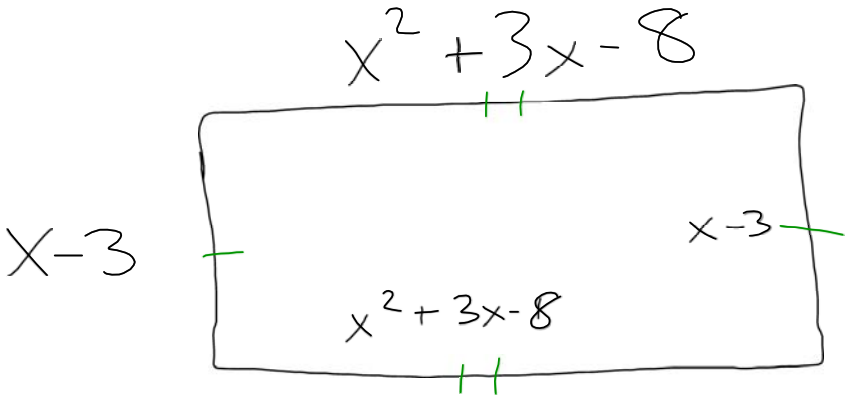
$(x + 5)(x^2 + 2x - 3)$

	x^2	$+2x$	-3
x	x^3	$2x^2$	$-3x$
$+5$	$5x^2$	$10x$	-15

$x^3 + 2x^2 - 3x + 5x^2 + 10x - 15$

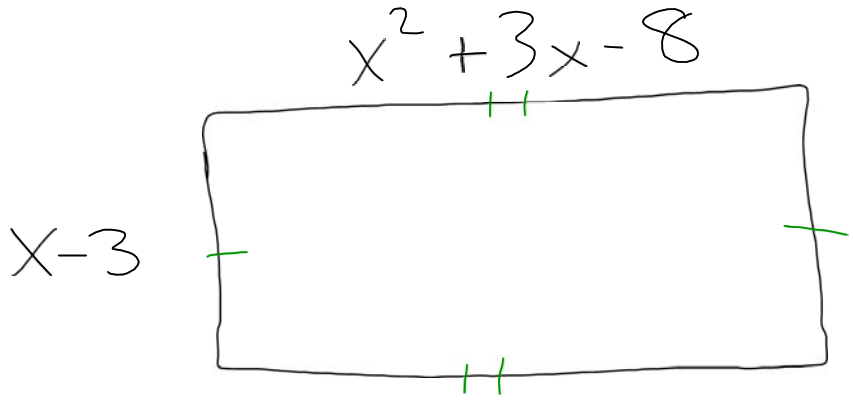
$x^3 + 7x^2 + 7x - 15$


10 in
Area: (10)(5) = 50 in²
Perimeter: 10+5+10+5=30 in
2(10) + 2(5) = 30 in
5 in
5 in
10 in



Area:

Perimeter:



Area: $(x-3)(x^2+3x-8)$

Perimeter: $2(x-3)+2(x^2+3x-8)$

$(x-3)+(x-3)+(x^2+3x-8)+(x^2+3x-8)$

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

Homework

Worksheet and Project part 1