Algebra 1 Unit 7: Quadratic Expressions Notes

Day 2 - Adding & Subtracting Polynomials

When adding, combine like terms.

a. $(4x^2 + 2x + 8) + (8x^2 + 3x + 1)$

$12x^2 + 5x + 9$

b. $(-2x + 5) + (-4x^2 + 6x + 9)$

$-2x + 5$

$-4x^2 + 6x + 9$

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

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

c. $(5 - 2x + x^2 + 7) + (3x^2 + 7 - 4x)$

$19 - 6x + 4x^2$

$4x^2 - 6x + 19$

d. $(2x^2 + x - 5) + (x + x^2)$

$3x^2 + 2x - 5$

Application: Find an expression that represents the perimeter of the house.

What does it mean to find the perimeter of an object?

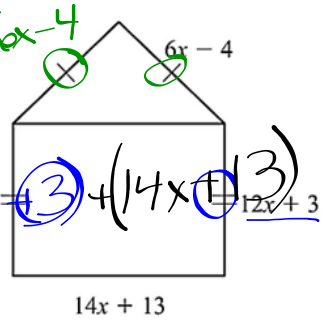
add all of the (out) sides

Perimeter of the house:

$(6x - 4) + (6x - 4) + (12x + 3) + (12x + 3) + (14x + 13)$

$12x - 8 + 24x + 6 + 14x + 13$

$50x + 11$



Algebra 1 Unit 7: Quadratic Expressions Notes

Subtracting Polynomials

Subtracting polynomials is similar to adding polynomials except we have to take care of the minus sign first.
Subtracting polynomials require the following steps:

1. re-write 1st expression
   - Distribute the negative (minus sign)
   - Combine like terms

a. $(7x^2 - 2x + 1) - (-3x^2 + 4x - 7)$

$7x^2 - 2x + 1 + 3x^2 - 4x + 7$

$10x^2 - 6x + 8$

b. $(3x^2 + 5x) - (4x^2 + 7x - 1)$

c. $(5x^2 - 4x + 8) - (-2 + 3x)$

d. $(3 - 5x + 3x^2) - (-x + 2x^2 - 4)$

e. $(8x + x^2 - 6) - (-10x + 7 - 2x^2)$

f. $(-7x^2 + 8x - 4) - (2 - 14x^2)$

$-7x^2 + 8x - 4 - 2 + 14x^2$

$7x^2 + 8x - 6$

$(2x^3 - 7x + 5) + (mx^2 + 2x - n) = 9x^2 - 5x - 7$

$m = 7$

$n = 12$

$2x^2 + mx^2 = 9x^2$

$-2x^2 \quad -2x^2$

$mx^2 = 7x^2$

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