4.1 Multiplying Polynomials

Recall: vertex form:
factored form:
standard form:

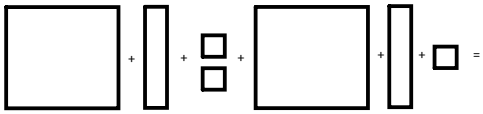
Given a quadratic in vertex form or factored form, how could you rewrite it in standard form?

Simplifying Polynomials

To simplify polynomials you need to identify like terms (terms with the same variables and exponents).

Zero Principle

Remember.... you can only add or subtract LIKE TERMS....



SAME SHAPE = _____

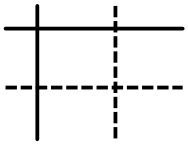
Ex. 1 Simplify each expression using algetiles.

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

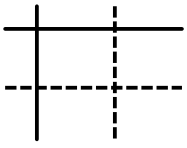
b) $(2x^2 + 3x + 1) + (-x^2 - 2x - 3)$

Perform each multiplication without a calculator:

23 x 51



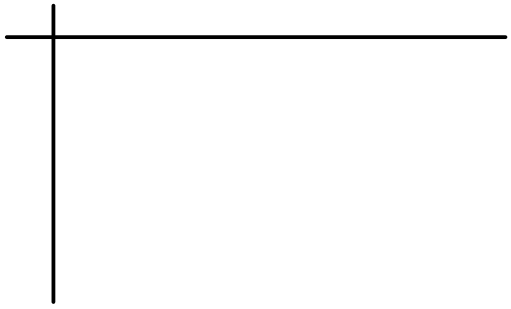
36 x 62



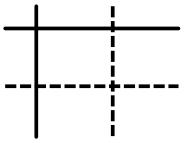
This is called an _____ model.

Ex. 2 Use algebra tiles to expand and simplify.

a) (-x)(x - 2)

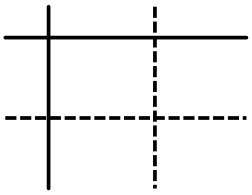


b) (2x + 1)(x - 2)

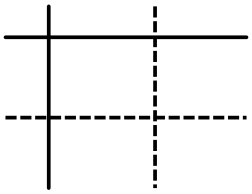


Ex. 3 Use the chart method to expand the following.

a) $(2x^2 - 1)(3 - x^2)$



b) $(m^2 - 2)(2m + 1)$



Consider the distributive property...

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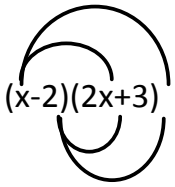

(x - 3) (x + 1)

Ex. 4 Expand and simplify.

a) (2x + 1)(x + 4)

b) (5 + 2x)(-2 + 3x)

c) (2q - 3p)(3q + 2p)

d) -3(x + 3)(2x + 1)

e) (x + 7)(x - 3) - (4x + 3)(2x - 1)