

EXPANDING QUADRATIC EXPRESSIONS



LEARNING GOAL

- Determine the product of two binomials using a variety of strategies.



BIG IDEAS

- Expanding is **MULTIPLYING** using the distributive property.
- Simplifying is **COLLECTING** the like terms by adding and subtracting.



BIG IDEAS (CONT)

- Strategies that can be used to multiply two binomials are:
 - Algebra Tiles
 - Area Diagram
 - Distributive Property



EX 2) AREA DIAGRAM

■ Expand and simplify

a) $(x-6)(x+2)$

b) $(x-3)(x-9)$

c) $(x+4)(x-11)$

	x	-6
x	x^2	$-6x$
+2	$+2x$	-12

	x	-3
x	x^2	$-3x$
-9	$-9x$	$+27$

	x	+4
x	x^2	$+4x$
-11	$-11x$	-44



EX 3) DISTRIBUTIVE PROPERTY

- Also known as FOIL,
 - First
 - Outside
 - Inside
 - Last

Just draw
the arrows!!!

- *Expand and simplify.*

a) $(x-4)(x+3)$

b) $(2x+1)(x+5)$



MORE EXAMPLES

- Expand and simplify.

- (a) $2(x - 8)(x - 1)$

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



CONSOLIDATION

- Make the connection!
- How did we go from factored form of the quadratic relation $y = (x - 3)(x + 6)$ to standard form of the same quadratic relation $y = x^2 + 3x - 18$?



REINFORCEMENT

- *Pages 166 - 168*
- *#3 - 10, 17**

