Standard ASSE.2

Multiplying Special Cases

SWBAT expand polynomials in vertex form and simplify them into standard form.

Expanding Monomials

Expand (do not simplify) each of the following:

a) $(2xy)^2$ b) $(5xyz)^3$ c) $(4x)^4$

The Square of a Binomial: Do NOT distribute an exponent to a binomial!

Simplify the product

$(a+b)^2$ =

Key Concept: The Square of a Binomial
Words:

Algebra	Examples

Expand, then FOIL or Box the following.

a) $(a - b)^2$ = b) $(a + b)^2$ =

Expand, and then simplify the following:

a) $(n - 7)^2$ = b) $(x + 3)^2$ =

c) $(2x + 9)^2$ d) $(3x + 4y)^2$

Got it? What is the simpler form of each product?

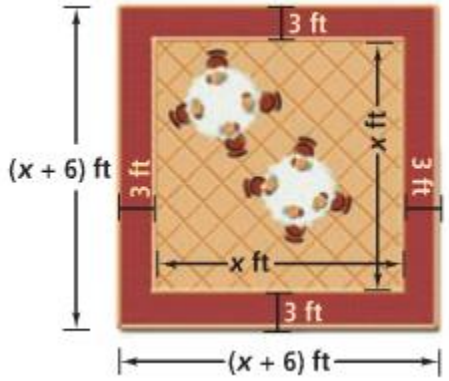
a) $(2x + 9)^2$ b) $(n – 4m)^2$

Applying Squares of Binomial: A square outdoor patio is surrounded by a brick walkway as shown. What is the area of the walkway?

Step 1:

Step 2:

Step 3:



Finding the Product of a Sum and Difference

What is a simpler form of $(x^3 + 8)(x^3 – 8)$

Practice:

a) $(x + 9)(x – 9)$ b. $(6 + m^2)(6 – m^2)$ c. $(3c – 4)(3c + 4)$

Expanding a Binomial in Vertex Form

What is a simpler form of each product?

a) $2(x – 6)^2$ b) $3(x + 2)^2$ c) $4(x – 1)^2$

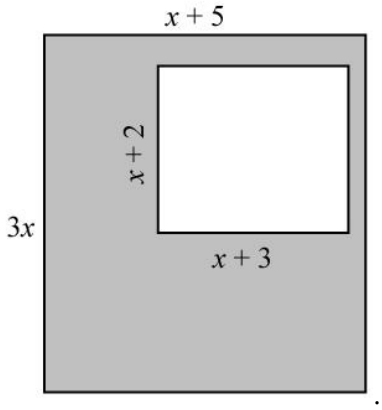
What is a simpler form of each product?

a) $3(x + 1)^2 + 1$ b) $2(x – 4)^2 – 5$ c) $-4(x – 2)^2 + 6$

Finding Area of Shaded Regions

$$\text{Area}_{\text{shaded}} = \text{Area}_{\text{Big}} - \text{Area}_{\text{Little}}$$

Find the area of the shaded region below. Show all work



Find the area of the shaded region below. Show all work!