Algebra 1 8.4

Find squares of sums and differences

Find the product of a sum and a difference

sum

difference

product

EWE

difference of squares

X-factor

$2 \cdot 5 \cdot x$

* $(x+5)^2 = (x+5)(x+5)$

$x^2 + 10x + 25$

$(2x+6)^2 = 4x^2 + 24x + 36$

$2 \cdot 2 \cdot 6 \cdot x$

$(4x+5)^2 = 16x^2 + 40x + 25$

$(x-6)(x+6)$

$x^2 + -36$

$x^2 - 36$

6p-1
6p-1

2·a·-2b

**GuidedPractice**

Find each product.

**2A** $(6p - 1)^2$

**2B** $(a - 2b)^2$

$36p^2 - 12p + 1$

$a^2 - 4ab + 4b^2$

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

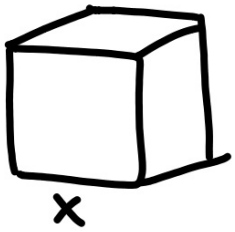
$* \; 4x^2 - 25$

$(9a+7)(9a-7) = 81a^2 - 49$

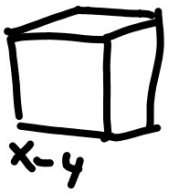
## Real-World Example 3 Square of a Difference

**PHYSICAL SCIENCE** Each edge of a cube of aluminum is 4 centimeters less than each edge of a cube of copper. Write an equation to model the surface area of the aluminum cube.

Copper




Alum.




SA =


$* (x-4)(x-4)$

$*(x-4)^2$

$x^2 - 8x + 16$

$6(x^2 - 8x + 16)$

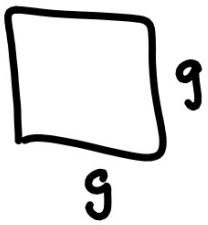
$6x^2 - 48x + 96$

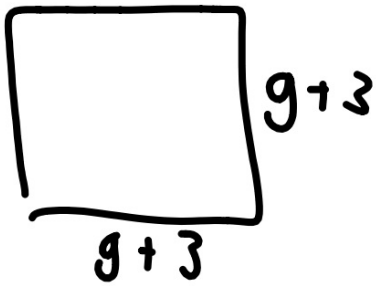
## GuidedPractice

**3. GARDENING** Alano has a garden that is $g$ feet long and $g$ feet wide. He wants to add 3 feet to the length and the width.

**A.** Show how the new area of the garden can be modeled by the square of a binomial.

**B.** Find the square of this binomial.




$(g+3)(g+3)$

$(g+3)^2$

$g^2+6g+9$

**GuidedPractice**

**Find each product.**

**4A.** $(3n + 2)(3n - 2)$

$9n^2 - 4$

$(p+s)(p+s)$

$(p+s)^2$


$p^2 + 10p + 25$

**4B** $(4c - 7d)(4c + 7d)$

$4 \cdot 4 \cdot 9^2$

$16c^2 - 49d^2$

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

$$\begin{array}{r} 2x+5 \\ x+4 \\ \hline 8x+20 \\ 2x^2+5x \\ \hline 2x^2+13x+20 \end{array}$$