

Algebra 1      8.4

Find squares of sums and differences

Find the product of a sum and a difference

sum      +

difference    -

product     $\times$

EWE

difference of squares

X-factor

Scavenger hunt

### Guided Practice

Find each product.

2A.  $(6p - 1)^2 = (6p - 1)(6p - 1)$

$$\begin{array}{r} 6p - 1 \\ 6p - 1 \\ \hline -6p + 1 \\ 36p^2 - 6p \\ \hline 36p^2 - 12p + 1 \end{array}$$

2B.  $\underline{a} - \underline{2b}$

$-2ab \cdot 2$

$-4ab$

$$\begin{array}{r} a - 2b \\ a - 2b \\ \hline -2ab \\ a^2 - 2ab \\ \hline a^2 - 4ab + 4b^2 \end{array}$$

#### Example 4 Product of a Sum and a Difference

Find  $(2x^2 + 3)(2x^2 - 3)$ .

$$\begin{array}{r} 2x^2 + 3 \\ 2x^2 - 3 \\ \hline \cancel{4x^4} \left( \begin{array}{r} -6x^2 \\ 6x^2 \end{array} \right) -9 \\ \hline 4x^4 - 9 \end{array}$$

## Guided Practice

Find each product.

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

$$25x^2 - 16$$

$$\begin{array}{r} 3n + 2 \\ 3n - 2 \\ \hline 9n^2 - 4 \\ \hline 9n^2 - 4 \end{array}$$

The diagram shows the multiplication of two binomials,  $(3n + 2)(3n - 2)$ , using the difference of squares formula. The result is  $9n^2 - 4$ . The terms  $6n$  and  $-6n$  in the middle row are circled, indicating they cancel each other out.

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

$$16c^2 - 49d^2$$

