

Name: _____

Date: _____

Special Products of Binomials Activity

1. Determine each product.

a. $(x + 1)(x - 1)$

b. $(x + 4)(x - 4)$

c. $(x - 7)(x + 7)$

d. $(2x - 3)(2x + 3)$

2. Describe any patterns in the binomials and products in Item 1.

3. **Express regularity in repeated reasoning.** The product of binomials of the form $(a + b)(a - b)$ has a special pattern called a **difference of two squares**. Use the patterns you found in Items 1 and 2 to explain how to find the product $(a + b)(a - b)$.

MATH TERMS

A binomial of the form $a^2 - b^2$ is known as the **difference of two squares**.

4. Determine each product.

a. $(x + 1)^2$

b. $(4 + y)^2$

c. $(x + 7)^2$

d. $(2y + 3)^2$

5. Determine each product.

a. $(x - 5)^2$

b. $(4 - x)^2$

DISCUSSION GROUP TIP

As you read and define new terms, discuss their meanings with other group members and make connections to prior learning.

c. $(y - 7)^2$

d. $(2x - 3)^2$

6. Describe any patterns in the binomials and products in Item 4 and Item 5.

7. **Reason abstractly.** The **square of a binomial**, $(a + b)^2$ or $(a - b)^2$, also has a special pattern. Use the pattern you found in Items 4, 5, and 6 to explain how to determine the square of any binomial.

MATH TERMS

A binomial of the form $(a + b)^2$ or $(a - b)^2$ is known as the **square of a binomial**.