

MY NOTES

**Learning Targets:**

- ⊗ Multiply binomials.
- ⊗ Find special products of binomials.

**SUGGESTED LEARNING STRATEGIES:** Think-Pair-Share, Look for a Pattern

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**.

**DISCUSSION GROUP TIP**

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

**Lesson 25-2**  
**Special Products of Binomials**

**ACTIVITY 25**  
continued

4. Determine each product.

a.  $(x + 1)^2$

b.  $(4 + y)^2$

c.  $(x + 7)^2$

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

e.  $(x - 5)^2$

f.  $(4 - x)^2$

g.  $(y - 7)^2$

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

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

6. **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 and 5 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**.

My Notes

**Check Your Understanding**

7. Use the difference of two squares pattern to find the product  $(p + k)(p - k)$ .
8. Use the square of a binomial pattern to determine  $(p + k)^2$ .
9. Can you use a special products pattern to determine  $(x + 1)(x - 2)$ ? Explain your reasoning.

**LESSON 25-2 PRACTICE**

Determine each product.

10.  $(x - 4)(x + 4)$
11.  $(x + 4)^2$
12.  $(y + 10)(y - 10)$
13.  $(y - 10)^2$
14.  $(2x - 3)^2$
15.  $(2x - 3)(2x + 3)$
16.  $(5x + 1)^2$
17.  $(2y - 1)(2y - 1)$
18. **Construct viable arguments.** Explain why the products  $(x - 3)^2$  and  $(x + 3)(x - 3)$  have a different number of terms.