

# 8-3 Practice Form G

## Multiplying Binomials

**Example 1: Using the Distributive Property**

What is a simpler form of  $(2x + 4)(3x - 7)$ ?

$$2x(3x - 7) + 4(3x - 7)$$

$$6x^2 - 14x + 12x - 28$$

$$6x^2 - 2x - 28$$

**Example 2: Using a table**

What is a simpler form of  $(x - 3)(4x - 5)$ ?

$$4x^2 - 17x + 15$$

	$x$	$-3$
$4x$	$4x^2$	$-12x$
$-5$	$-5x$	$15$

**Example 3: Using FOIL**

What is a simpler form of  $(5x - 3)(2x + 1)$ ?

First  $10x^2$   
Outer  $5x$   
Inner  $-6x$   
Last  $-3$

$$10x^2 - x - 3$$

**Example 4: Multiplying a Trinomial and a Binomial**

Distribute

What is a simpler form of  $(3x^2 + x - 5)(2x - 7)$ ?


$$6x^3 + 2x^2 - 10x - 21x^2 - 7x - 35$$

$$6x^3 - 19x^2 - 17x - 35$$

**Simplify each product using the Distributive Property.**

1.  $(x + 3)(x + 8)$

2.  $(y - 4)(y + 7)$

3.  $(m + 9)(m - 3)$

4.  $(c - 6)(c - 4)$

5.  $(2r - 5)(r + 3)$

6.  $(3x + 1)(5x - 3)$

7.  $(d + 2)(4d - 3)$

8.  $(5t - 1)(3t - 2)$

9.  $(a + 11)(11a + 1)$

**Simplify each product using a table.**

10.  $(x + 3)(x - 5)$

11.  $(a - 2)(a - 13)$

12.  $(w - 4)(w + 8)$

13.  $(5h - 3)(h + 7)$

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

15.  $(2p + 1)(6p + 4)$

**Simplify each product using the FOIL method.**

16.  $(2x - 6)(x + 3)$

17.  $(n - 5)(3n - 4)$

18.  $(4p^2 + 2)(3p - 1)$

19.  $(a + 7)(a - 3)$

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

21.  $(k - 9)(k + 5)$

22.  $(b - 5)(b - 11)$

23.  $(4m - 1)(m + 4)$

24.  $(7z + 3)(4z - 6)$

25.  $(2h + 6)(5h - 3)$

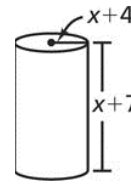
26.  $(3w + 12)(w + 3)$

27.  $(6c - 2)(9c - 8)$

**8-3** Practice (continued)

Form G

28. What is the surface area of the cylinder at the right? Write your answer in simplified form.



29. The radius of a cylindrical popcorn tin is  $(3x + 1)$  in. The height of the tin is three times the radius. What is the surface area of the cylinder? Write your answer in simplified form.
30. The radius of a cylindrical tennis ball can is  $(2x + 1)$  cm. The height of the tennis ball can is six times the radius. What is the surface area of the cylinder? Write your answer in simplified form.

**Simplify each product.**

**31.**  $(x + 3)(x^2 - 2x + 4)$

**32.**  $(k^2 - 5k + 2)(k - 5)$

**33.**  $(3a^2 + a + 4)(2a - 6)$

**34.**  $(2x^2 + 2x - 6)(3x - 4)$

**35.**  $(4g + 5)(2g^2 - 7g + 3)$

**36.**  $(m^2 - 2m + 7)(3m + 6)$

**37.**  $(2c + 8)(2c^2 - 4c - 1)$

**38.**  $(t + 8)(3t^2 + 4t + 5)$