

Strategy 3: Multiplying Symbolically (without a grid)

As you become more comfortable with binomial multiplication, you may choose to determine products without using algebra tiles or a grid. Remember to multiply each term in the first binomial by each term in the second binomial.

Example 3

Multiply $(5t - 3)(6t - 7)$ symbolically.

Multiply each term in the first binomial by each term in the second binomial. Add these products and simplify.

$$\begin{aligned}(5t - 3)(6t - 7) &= (5t)(6t) + (5t)(-7) + (-3)(6t) + (-3)(-7) \\ &= 30t^2 - 35t - 18t + 21 \\ &= 30t^2 - 53t + 21\end{aligned}$$

**Check Up**

1. Multiply $(-n + 5)(2n + 8)$ symbolically.



Compare your answers.

1. Multiply $(-n + 5)(2n + 8)$ symbolically.

$$\begin{aligned}(-n + 5)(2n + 8) &= (-n)(2n) + (-n)(8) + (5)(2n) + (5)(8) \\ &= -2n^2 - 8n + 10n + 40 \\ &= -2n^2 + 2n + 40\end{aligned}$$

► Multimedia

A video showing how to multiply binomials using the previous three methods has been provided.