

Sec 3.7: Multiplying Polynomials

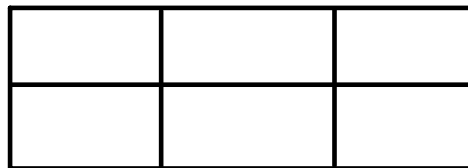
↳ When multiplying polynomials, each term of one polynomial is multiplied by each term of the other polynomial (ie. **distributive property**).

Example 1: Multiply

a. $2x(2x^2 + 4x - 1)$

b. $(2x + 3)(2x^2 + 4x - 1)$

Note: The rectangle model can be used to multiply binomials and/or trinomials.



Note: Answers can be verified!

↳ Substitute any number in for the variable in the original question and the answer.

Hint: Using 1 is the easiest! Never use 0! Why?

If the results are equal the question is answered correctly.

Verify your answers for $(2x + 3)(2x^2 + 4x - 1)$

Example 2

a. Expand $(2r + 5t)(3r - 4t)$

Note: With two variables we would verify using a different number for each variable.

b) Verify if $r = 1$ and $t = 2$

Example 3: Expand and Simplify.

a) $(2g^2 + 3g - 4)(g^2 - g + 1)$

b) $(2x + 3y)(4x - 3y + 5)$

c) $(3x - 1)^2$

Work Book Questions

p.186 #4cd, 5f, 6a)i,vi, 8ac

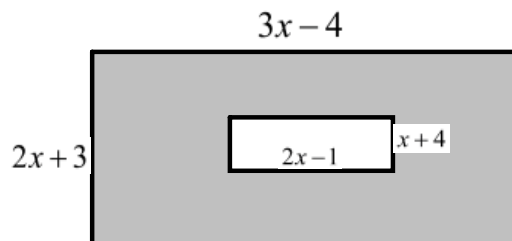
Extra Practice Questions

p.186 #4ab, 5abcde, 6a) ii, vii, 7, 8bd

Example 4: Find the errors and redo the problem correctly:

$$\begin{aligned}(2r - 3s)(r - 5s + 6) &= 2r(r - 5s + 6) - 3s(r - 5s + 6) \\ &= 2r^2 - 5rs + 12r - 3rs - 15s^2 - 18s \\ &= 2r^2 - 8rs + 12r - 33s^2\end{aligned}$$

Example 5: Write a simplified polynomial expression to represent the area of the shaded region.



Example 6: Expand and simplify $(2x + 3)(5x + 4) + (x - 4)(3x - 7)$

<p>Work Book Questions p.186 #13a,14,15ae, 17a</p>	<p>Extra Practice Questions p.186 #13bd,15bdf,17b</p>
--	---