

1. The dimensions for a rectangular prism are  $x + 5$  for the length,  $x + 1$  for the width, and  $x$  for the height. What is the volume of the prism?

Perform the following polynomial multiplications.

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

3.  $(x^3 + 3x^2 + 1)(3x^2 + 6x - 2)$

4.  $(x^2 + 9x + 7)(3x^2 + 9x + 5)$

5.  $(2x + 5y)(3x^2 - 4xy + 2y^2)$

6.  $(x^3 + x^2 + 1)(x^2 - x - 5)$

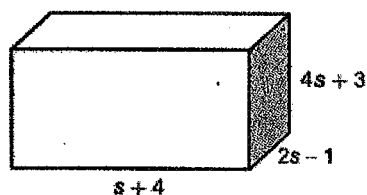
7.  $(4x^2 + 3x + 2)(3x^2 + 2x - 1)$

8. The identity  $(x + y)(x - y) = x^2 - y^2$  can be used for mental-math calculations to quickly multiply two numbers in specific situations.

Find the product of 37 and 43. (Hint: What values should you choose for  $x$  and  $y$  so the equation calculates the product of 37 and 43?)

9.

Find the volume of the package below. Use the formula  $V = lwh$ .



10.

Write a polynomial that represents the area of the shaded walkway formed by these two rectangles.

