1.   Multiply.

a) $(u-5)(3u^2-7u+2)$

b) $(x^2+x-2)(x^2-3x-2)$

2.   Use "special product" formulas to find the products.

a) $(5x+4)(5x-4)$

b) $(3x-8)^2$
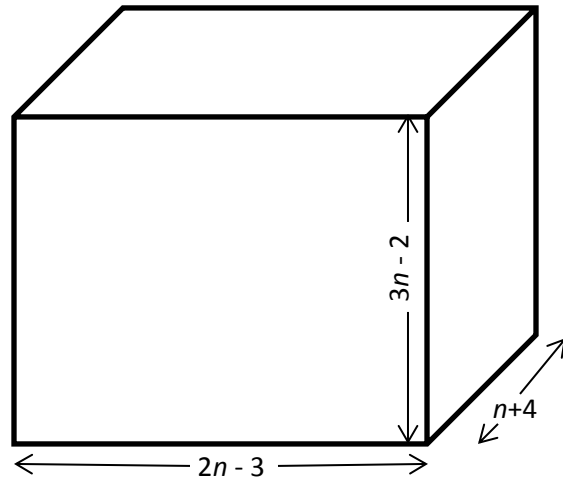
c) $(4x+3)^2$

3.   Write each as a polynomial.

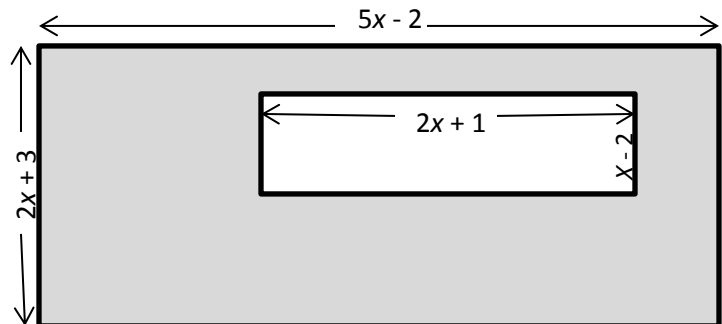*a)* $(4-a)^3$

b) $(c+5)^2(c-5)^2$

c) $(2g-1)^4$

4.   Write a polynomial that represents the volume of this rectangular box.
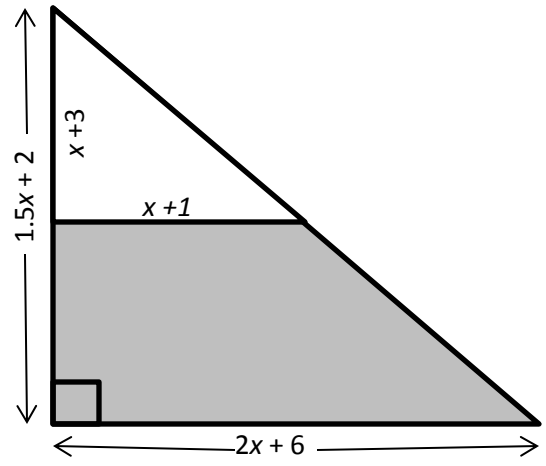
$3n - 2$

$n+4$

$2n - 3$

5. Write a polynomial for the rectangular box shown above in problem 4, if the length and width are both increased by 2 and the height is decreased by 3.

Find the area of the shaded region in each problem.

6.

$5x - 2$

$2x + 1$

$2x + 3$

$x - 2$

7.

Triangle with vertical left side labeled $1.5x + 2$. The upper portion of the left side is labeled $x + 3$. A horizontal line segment labeled $x + 1$ separates the upper triangle from the shaded lower region. The base is labeled $2x + 6$. A right angle is marked at the bottom left corner.

8.

Rectangle with top side labeled $3x + 4$ and left side labeled $2x + 2$. The bottom left segment is labeled $x + 3$. A diagonal line creates a white triangle in the lower left, with the remaining region shaded gray.