

Name: \_\_\_\_\_

Date: \_\_\_\_\_

<b>Learning Goal 3.1</b>	Perform combined operations with polynomials.
--------------------------	---

**Example** A cube has edge length  $2r + 1$ . A right square prism with dimensions  $r$  by  $r$  by  $2r + 1$  is removed from the cube. Write an expression for the volume that remains. Simplify the expression.

<b>Learning Goal 3.2</b>	Given a number, a set of numbers or a polynomial expression, identify the prime factorization of each element and use it to find the GCF, LCM, perfect squares or cubes and/or factored form.
--------------------------	---

**Example** A necklace has 3 strands of beads. Each strand begins and ends with a red bead. If a red bead occurs every 6<sup>th</sup> bead on one strand, every 4<sup>th</sup> bead on the second strand and every 10<sup>th</sup> bead on the third strand, what is the least number of beads each strand can have?

**Example** During the Festival du Voyageur in Winnipeg, Manitoba, teams compete in a snow sculpture competition. Each team begins with a 1440 – cubic foot rectangular prism of snow. The prism has a square cross-section and a height of 10 feet. What are its length and width?

**Example** A cylindrical bar has base radius  $r$  and height  $h$ . Only the curved surface of a cylindrical bar is to be painted. Write an expression for the fraction of the total surface area that will be painted. Simplify if possible.