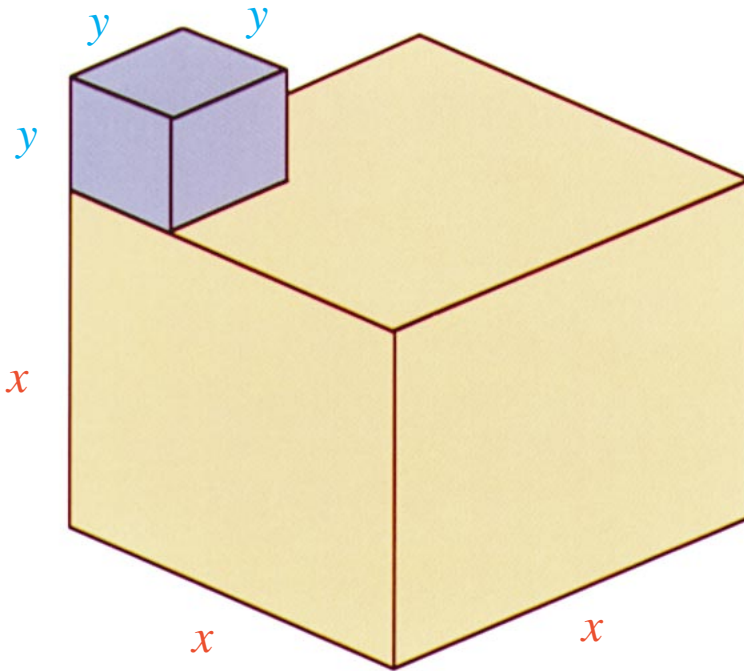


## Two Cubes

## Problem-of-the-Week

### The Problem

This figure can be used to factor a binomial of the form  $x^n + y^n$ . Find the binomial and explain how the figure models its factorization.



### Strategies and Hints

1. Write algebraic expressions for the volumes of the two cubes. What binomial is modeled by the figure?
2. The figure can be divided into three prisms. One edge of each prism is either  $x + y$  or  $x - y$ . Copy the drawing and show the three prisms.
3. Write an algebraic expression for the sum of the volumes of the three prisms.