

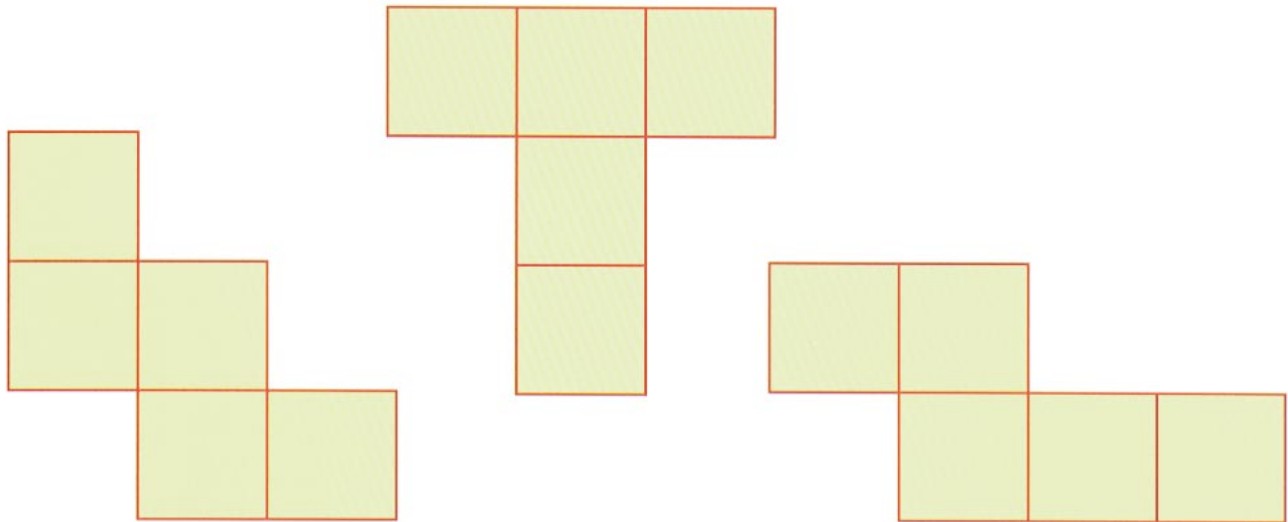
# Planar Pentominoes

## Problem-of-the-Week

### The Problem

A planar pentomino is formed by joining together 5 cubes of the same size. Three of these pentominoes are shown.

Make all the 12 different planar pentominoes from any type of small cube. Then use all 12 pieces to build a  $3 \times 4 \times 5$  rectangular solid.



### Strategies and Hints

1. The 12 pentominoes resemble these letters of the alphabet: F, I, L, N, P, T, U, V, W, X, Y, and Z.
2. You might wish to “warm up” by building the flat shape shown at the top right. The hole is 2 units square and the overall dimensions are  $8 \times 8$ .
3. There are almost 4000 different ways to build the rectangular solid. In one solution, the base of the solid looks like the figure at the bottom right.

