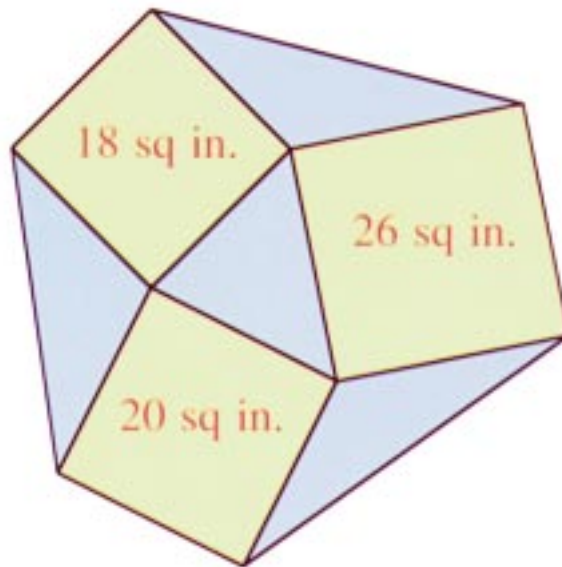


Three Squares in a Hexagon

Problem-of-the-Week

The Problem

A hexagon is composed of three squares and four triangles as shown in the figure. The areas of the squares are given. Find the area of the entire figure.



Strategies and Hints

1. For each area A , find integral solutions to the equation $x^2 + y^2 = A$. What does this suggest about the side of each square?
2. Draw the figure on a coordinate grid. Put the left vertex of the bottom square at the point $(1, 2)$ and the bottom vertex at the point $(5, 0)$. What do you discover about the other vertices in the figure?
3. What relationship does the area of the hexagon have to the area of a 12-inch by 12-inch square?