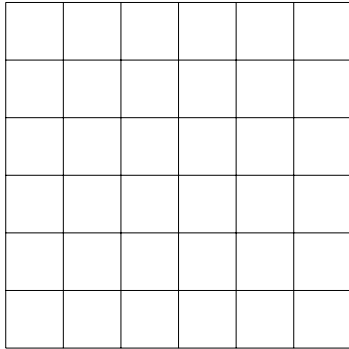


Fill the Square Problem

Robert J. Reed, Brown Middle School, Newton, MA

1. Fill up the 6-by-6 square using these 6 polygons:
 - Rectangle with area 12 and perimeter 14
 - Rectangle with area 12 and perimeter 16
 - Rectangle with area 3 and perimeter 8
 - Right triangle with area 3 and base 2
 - Right triangle with area $1\frac{1}{2}$
 - Triangle with area $4\frac{1}{2}$



2. Assemble the following polygons to form the same 6-by-6 square as above.
 - Right angle trapezoid with area 5
 - Trapezoid with area $3\frac{1}{2}$
 - Right angle trapezoid with area $13\frac{1}{2}$
 - Trapezoid with area 12
 - Rectangle with dimensions 1 by 2

Put the rectangle somewhere in the middle.

Hints

Hint to problem 2. Actually, all of the trapezoids will have at least one 90° angle, and all but one will have two 90° angles.

Answers

Slightly different arrangements are possible for these.

