Tiling Rectangles with Pentominoes

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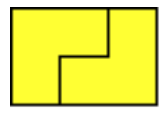
Some polyominoes can be used to tile rectangles. For example, here is the smallest rectangle that can be tiled by the bent tromino:



1. The L, P and Y pentominoes can each tile a rectangle. What is the smallest possible such rectangle? Show each tiling on grid paper.

2. Tile a 3 by 5 rectangle with:
   a. U and X
   b. V and Z

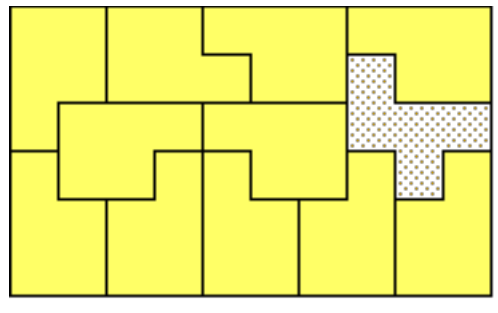
3. Tile a 4 by 5 rectangle with:
   a. T and Y
   b. U and N
   c. V and F
   d. V and N

4. Tile a 5 by 5 square with:
   a. X and Y
   b. Y and Z
   c. Y and F
   d. L and X

5. Tile a 3 by 10 rectangle with:
   a. U and Y
   b. U and F

6. Find the smallest rectangle that can be tiled with
   a. Y and N.
   b. T and N.
   c. T and W.

This figure shows a rectangle tiled with a single F pentomino, and many P's:



7. What is the smallest rectangle you can tile with a single one of each of the pentominoes, and as many P's as you want?

This is an extension of page 27 in *Polyomino Lessons*.