



Problem of the Week

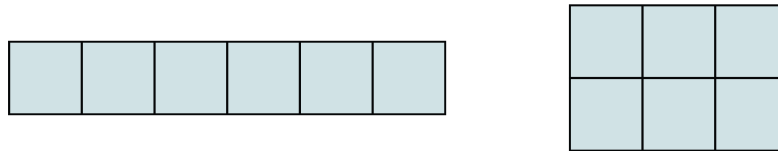
Problem A

Rearranging Rectangles

Ravi arranges identical square tiles to form rectangles using the following rules:

1. Tiles must line up exactly without any gaps or overlaps.
2. The width of each rectangle must be larger than its height.

Using 6 tiles, Ravi can form two different rectangles. The first has a width of 6 and a height of 1, and the second has a width of 3 and a height of 2, as shown.



- (a) Draw all the rectangles Ravi can form with 15 square tiles.
- (b) Draw all the rectangles Ravi can form with 24 square tiles.
- (c) Draw all the rectangles Ravi can form with 17 square tiles.
- (d) Can Ravi form more rectangles with 24 square tiles or 35 square tiles?
Justify your answer.
- (e) **Challenge:** Ravi has some number of tiles less than 100 and is able to form only one rectangle. What is the largest number of tiles that Ravi could have?

