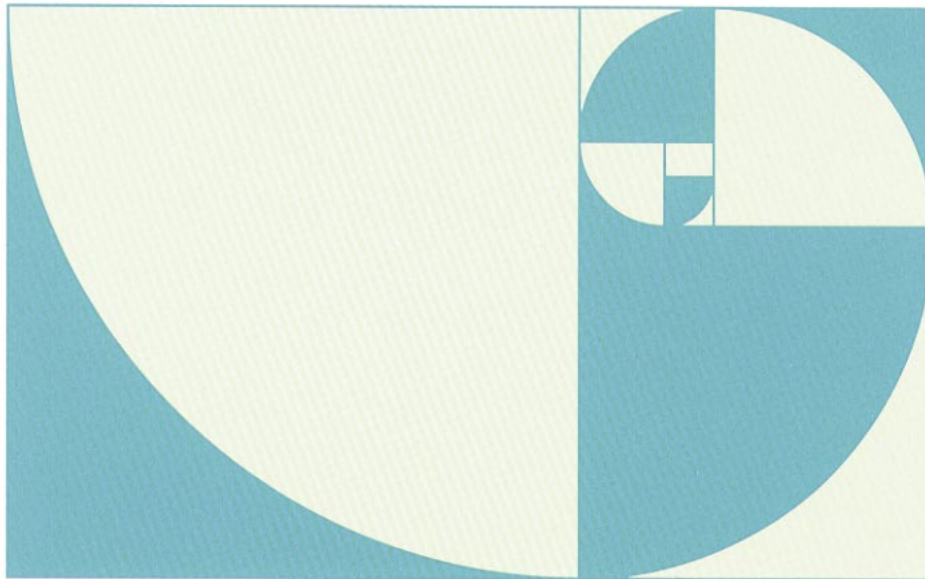


A Logarithmic Spiral

Problem-of-the-Week

The Problem

The quarter-circle arcs in the squares form a logarithmic spiral. In order to get this particular spiral, the sides of the original rectangle must be in a particular ratio. Find a two-place decimal approximation for this ratio.



Strategies and Hints

1. Ignore the spiral and look for relationships in the squares and rectangles in the drawing. For example, in the figure at the right, how does the rectangle with short side of length y seem to relate to the rectangle with short side of length x ?
2. Write a proportion relating the small and large rectangles in the figure at the right. Then find a way to use this to compute a numerical value for the ratio of x to $(x + y)$.

