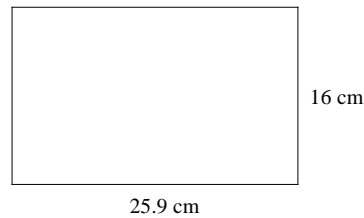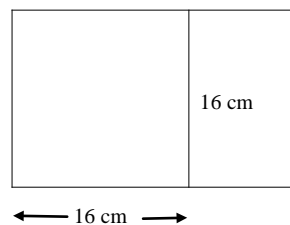# THE GOLDEN SPIRAL

The Golden Spiral is a famous mathematical design and is based on a shape known as the Golden Rectangle. Follow the instructions below to construct a Golden Spiral.

1.   Use one of the rulers and the perpendicular grid lines on Geo-Pro to draw a rectangle of length 25.9 cm and width 16 cm.
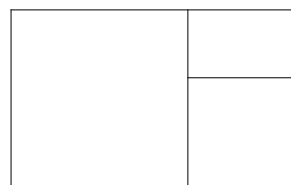   [These proportions are just one possible pair for a Golden Rectangle, as 25.9 ÷ 16 is approximately equal to 1.618, the so called 'golden ratio'. You may wish to use another pair of length and width values, but the larger value (length) divided by the smaller value (width) must be close to 1.618.]

16 cm

25.9 cm

2.   Measure 16 cm along one side of your rectangle and use Geo-Pro to divide the rectangle into a square and a smaller rectangle.

16 cm

◄——— 16 cm ——►

3.   Now measure the width of the smaller rectangle and divide it into a square and even smaller rectangle.

4.   Continue this process until it becomes too difficult to divide rectangles any further. Construct a curve that starts in the top left corner of the original rectangle and joins diagonally opposite corners of each square as shown below. Such a curve is called a 'Golden Spiral'.