

THE GOLDEN SECTION

http://en.wikipedia.org/wiki/Pentagram#Golden_ratio

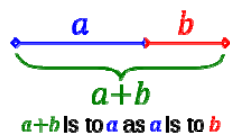
<http://goldennumber.net/goldsect.htm>

<http://www.abc.net.au/science/photos/mathsignature/photo12.htm>

For a dense but very informative book, see The Golden Ratio : The Story of Phi, the World's Most Astonishing Number, by Mario Livio, 2003.

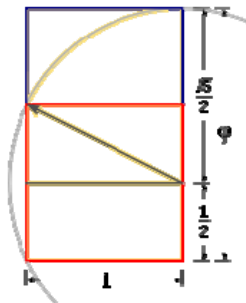
Other names used for the golden ratio are the *golden section* and *golden mean*.

Two quantities are in the golden ratio if the ratio of the sum of the quantities to the larger quantity is equal to (=) the ratio of the larger quantity to the smaller one.



The golden ratio is an irrational mathematical constant, approximately 1.6180339887.

The golden ratio is often denoted by the Greek letter phi, usually lower case (ϕ). The most common “golden section” item in daily use is a common credit card!

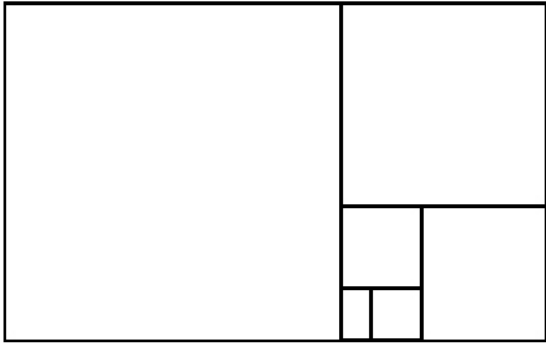


Construction of a golden rectangle:

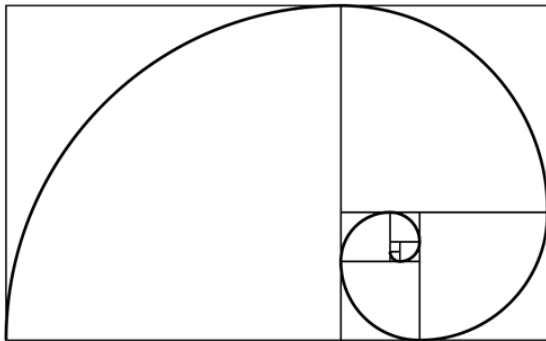
1. Construct a unit square.
2. Draw a line from the midpoint of one side to an opposite corner.
3. Use that line as the radius to draw an arc that defines the long dimension of the rectangle.

The Fibonacci numbers are named after Leonardo of Pisa (aka Fibonacci) who described his sequence in a book in 1202. The first two numbers are 0 and 1, and each subsequent term is the sum of the two terms before it (0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144, 233...).

The ratio from one term to the next in the Fibonacci series is 1: 1.6180339887 - ϕ .



Each smaller rectangle plus the larger one next to it are in the ratio of the Golden Mean.



If you construct a series of squares with lengths equal to the Fibonacci numbers (1,1,2,3,5, etc) and trace a line through the diagonals of each square, it forms a Fibonacci spiral.