

Golden Ratio

The goal of the presentation is to further describe the golden ratio and the golden rectangle. Good articles to look at are

- http://en.wikipedia.org/wiki/Golden_ratio
- http://en.wikipedia.org/wiki/Golden_rectangle

Your presentation should include

- A proof that φ is irrational (along with a brief discussion of what it means to be irrational).
- A characterization of

$$\varphi = 1 + \sqrt{1 + \sqrt{1 + \dots}}$$

And an explanation of how we get this from the formula $\varphi^2 = 1 + \varphi$.

- A description of how to construct a golden rectangle from a given square.

In addition, your presentation should include AT LEAST one of the following

- A discussion of the Golden Rectangle and Beauty (i.e. the Greeks opinion of the Golden Rectangle)
- A discussion of the Lucas numbers (look up the entry in Wikipedia for more details on them) including their relationships to the Fibonacci numbers.

You should also feel free to expand on the above in any directions you would like (so long as they are related to the topic). If you have any questions regarding the presentation feel free to e-mail your TA or Dr. Ackerman.