

Palestra

“Golden section in mathematics, nature and art”

Conferencista convidado: Professor Mirna Rodic Lipanovic (University of Zagreb).

Destinatários: Docentes das áreas das artes e matemática e público em geral.

Condições de acesso: entrada gratuita, mediante inscrição prévia em cda.uma.pt.

Inscrições: até 21 maio de 2014, 12h00.

Datas de realização (participantes podem optar por uma das duas opções disponíveis):

- Sessão 1: 21 de maio de 2014, 16h00, Sala do Senado (Ed. da Penteadada)
- Sessão 2: 22 de maio de 2014, 18h30, Auditório do Colégio dos Jesuítas (Ed. do Castanheiro).

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RESUMO

“Golden section in mathematics, nature and art” by Mirna Rodic Lipanovic, University of Zagreb

“Geometry has two great treasures: one is the theorem of Pythagoras; the other, the division of a line into extreme and mean ratio (nowadays called Golden Section). The first we may compare to a measure of gold; the second we may name a precious jewel.”

Johannes Kepler (1571.-1630.)

Golden section, Golden mean, also called Divine or Golden Ratio, or, as Kepler said – one of two great treasures of geometry – was already known in ancient times. Euclid (Greece, 4th Century BC) in his Elements mentions this ratio – he called it “the division into extreme and mean ratio”. When digging the ruins of Pompeii (the town in south Italy, devastated by

eruption of volcano in 1st Century AD) archaeologists found a kind of tool used for construction and measurement of the golden section – the so called “golden compass/divider”. Golden section is often found in the forms of the growth in nature, and applied in fine arts and architecture of different periods, and it has intrigued and thrilled the artists, philosophers, biologists and mathematicians, for centuries.

How to divide the line-segment in golden section? What are the golden triangle, golden rectangle and golden spiral? What has the regular pentagon to do with golden section? What is the connection of Fibonacci numbers and Golden section? – These are some of the questions that we are going to answer. And also, we are going to see numerous examples of Golden section and Fibonacci numbers in nature and in arts and architecture.