The Golden Ratio.

High school: IES Lope de Vega

A la Divina Proporción…

A ti, maravillosa disciplina,
media, extrema razón de la hermosura
que claramente acata la clausura
viva en la malla de tu ley divina.
A ti, cárcel feliz de la retina,
áurea sección, celeste cuadratura,
misteriosa fontana de mesura
que el universo armónico origina.
A ti, mar de los sueños angulares,
flor de las cinco flores regulares,
dodecaedro azul, arco sonoro.
Luces por alas un compás ardiente.
Tu canto es una esfera transparente.
A ti, divina proporción de oro.

Rafael Alberti.

To Divine Proportion…

To you, amazing discipline
Ratio; source of beauty without flaws
revering the rich life cloisters within
the armoned confines of your secret law.

To you, the retina´s beatific jail,
Golden section,squaring up to scale
Mysterious wellspring of modernation
That gives rise to harmonious creation.

To you, ocean of angulated dreams
Flower of the five regular forms
Blue dodecahedron, sohorous are
You spark akindled compass with your wings
Clear sphere in the song your theorem sings.

To you, divine proportion, gold form dark.

Translated from Spanish by Caroline L. Tipton.

*"To you, amazing discipline
Ratio; source of beauty without flaws
revering the rich life cloisters within
the armoned confines of your secret law."*

What does Golden Ratio Means?

- **Experiment:** Divine Proportion.

Where can we find Golden Ratio?

✓ *Maths*
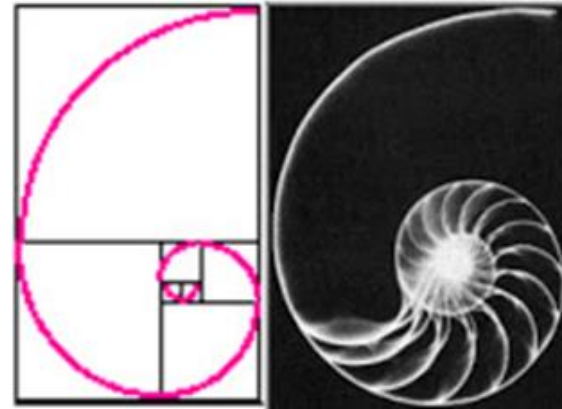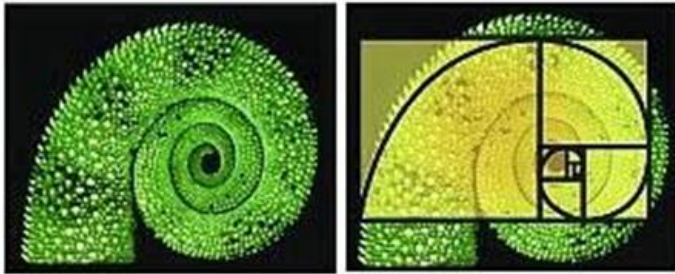
✓ *Music*

✓ *Nature*

✓ *Human body*

- **Experiment:** Measure if one person is in Golden Ratio.

"To you, the retina´s beatific jail,"

- Is Golden Ratio always correct?

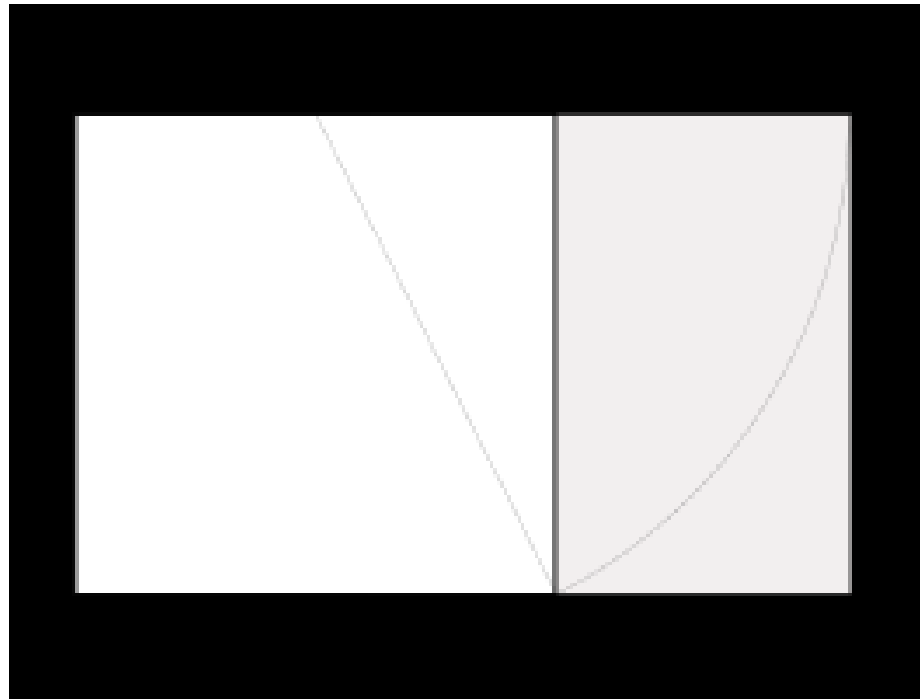*No it isn´t, for example:*

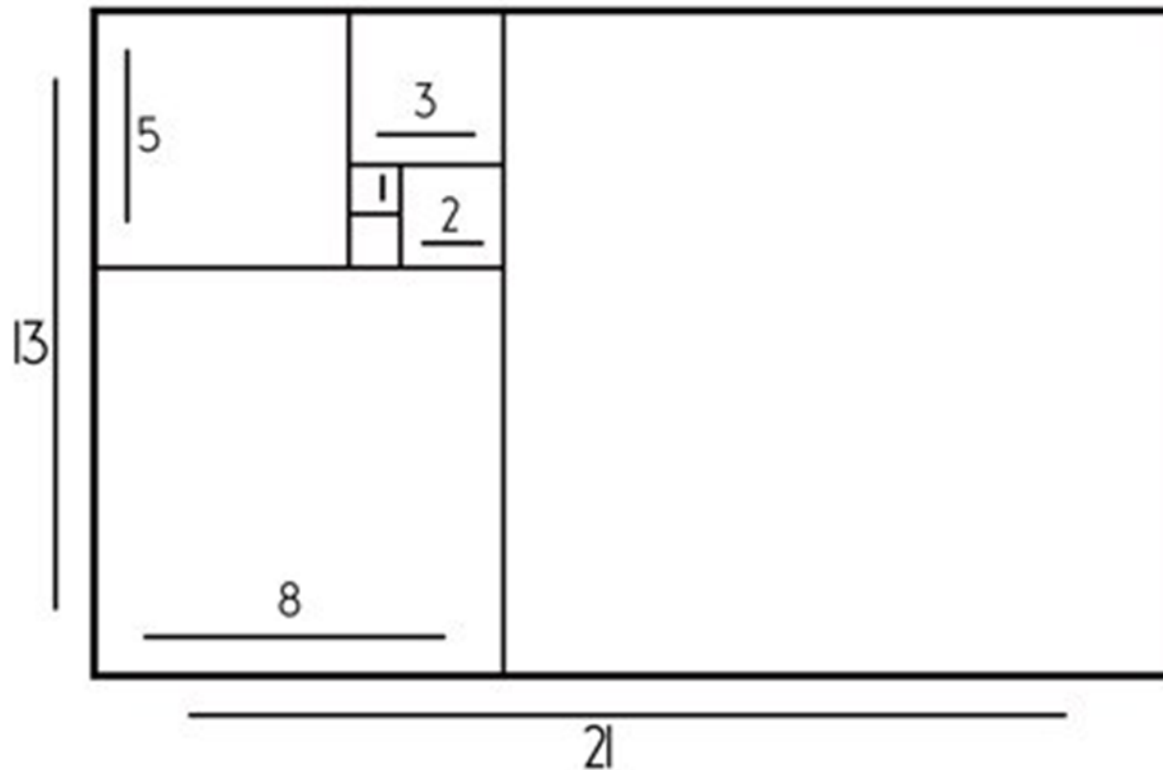❑*In nature...*

❑*In architecture...*

Experiment:

- Rectangles beauty contest .

"Golden section, squaring up to scale"

The measures of this rectangle are the numbers of the Fibonacci series
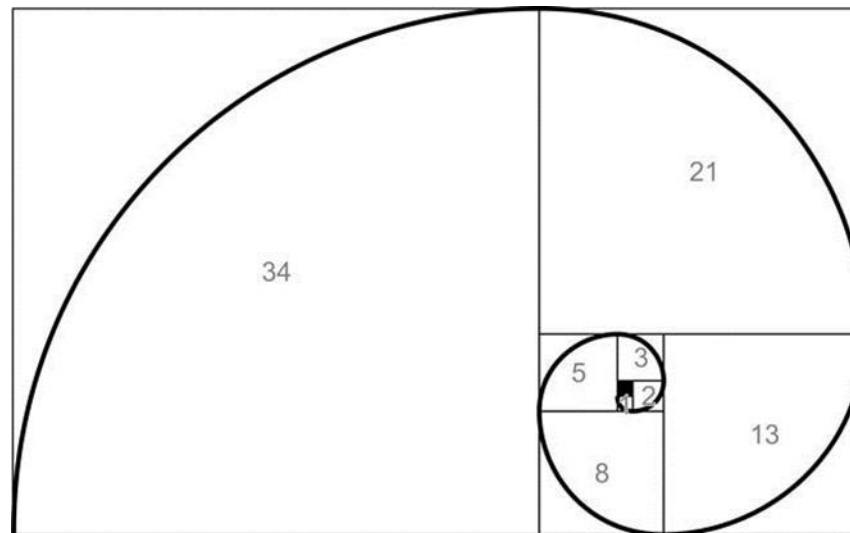
"Mysterious wellspring of modernation
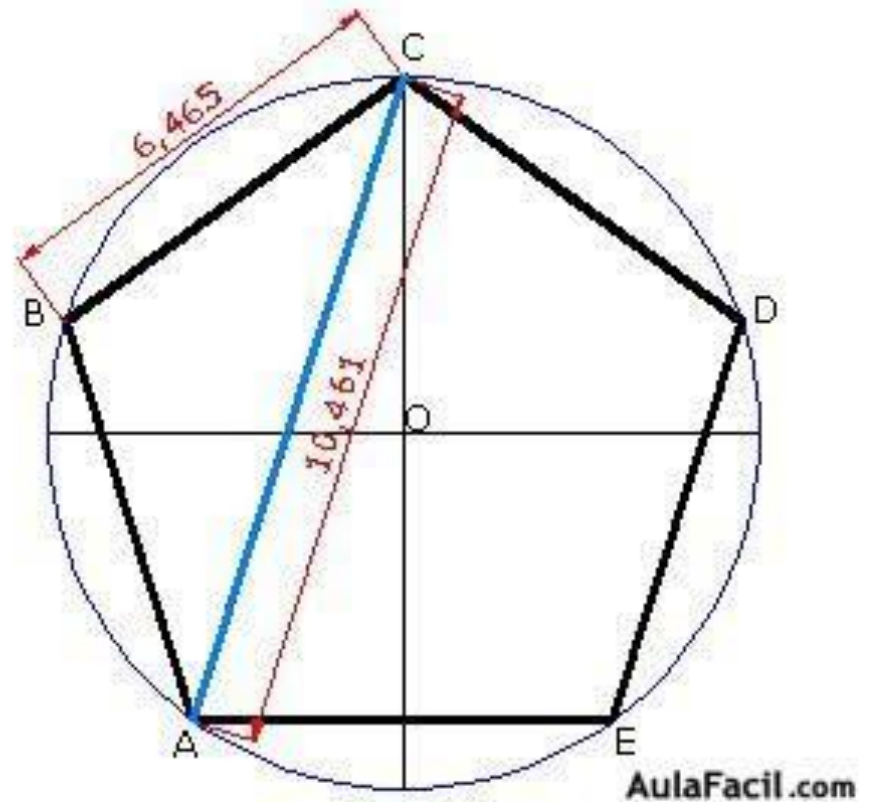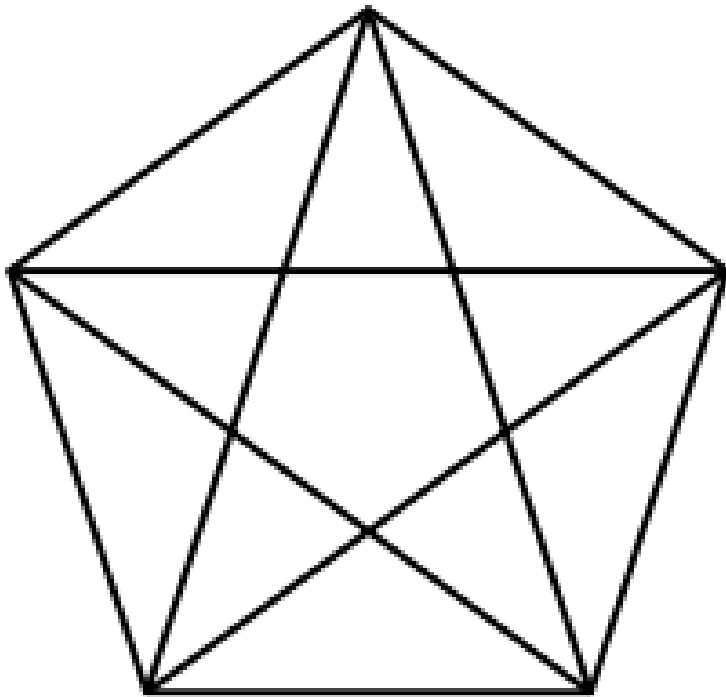# That gives rise to harmonious creation."

THE FIBONACCI SEQUENCE

- It's the following infinite sucession of natural numbers:

- 0;1;1;2;3;5;8;13;21;34;55;89;144…

- It was described in Europe by Leonardo de Pisa.

- The quotient between each numer and the previous one is getting closer to the golden number.

$$\Phi = \frac{1+\sqrt{5}}{2} = 1,618033988749\ldots$$

- These numbers will surprise to all biologists.
- A spiral is formed: growth of mollusk shells.
- It is the growth spiral and the shape of the animal kingdom.
- He had found the growth key in nature unintentionally.

"To you, ocean of angulated dreams
Flower of the five regular forms
Blue dodecahedron, sohorous are"

"You spark akindled compass with your wings
Clear sphere in the song your theorem sings."

- ¿It Golden Ratio in our mind?

Experiment:

✓ Draw a snowman using 3 circunferences.

"To you, divine proportion, gold form dark."

Conclusion: It is beauty something you can measure?