

The Golden Section

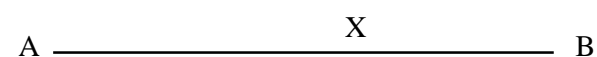
par ??? des
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We have been working with The Golden Section. During the period up to the conference we concentrated on the subject Aesthetics.

The facts about The Golden Section.

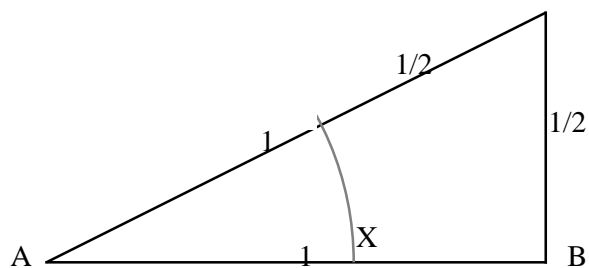
Definition :



If a line segment AB is divided by the special point X, then it is said that X divides the line segment into The Golden Proportion.

The proportion between the line segments AB and AX is ϕ , and we have discovered that the proportion between |XB| and |AB| is ϕ^2 . The proof that X divides |AB| into the Golden proportion is below ; since the dividing of the segment is performed by the use of a 90° triangle, you can use the law of Pythagoras :

$$a^2 + b^2 = c^2.$$



$$1^2 + (0,5)^2 = (x + 0,5)^2$$

$$1,25 = (x + 0,5)^2$$

$$\sqrt{1,25} = x + 0,5$$

$$x = \frac{1}{\phi} = 0.618034$$

$$\frac{|AB|}{|AX|} = \frac{1}{0.618034} = 1.618034 = \phi$$

$$\frac{|AB|}{|XB|} = \frac{1}{1 - 0.618034} = 2.618034 = \phi^2$$

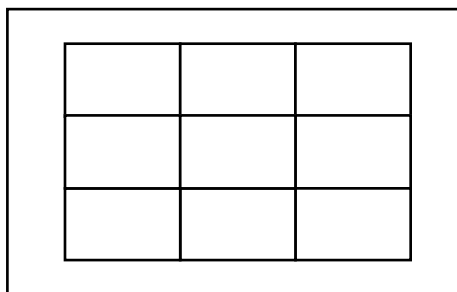
Loi de Adrien 3

Si A et B sont des nombres différents de 0,

si $B > A$, on ne peut pas faire de division $A \div B$ qui tombe juste (dont le résultat n'a pas de virgule).

The Golden Rectangle

Besides we learnt how to construct a Golden Rectangle, we used this to construct a Golden Window. The window is then divided into The Golden Pattern, as you can see below :



To divide The Golden Rectangle, you'll just have to use the method to divide a line segment.

A poll ...

We asked people to choose among ten quadrangles which was the most beautiful. The quadrangles were made from the following proportions :

1:1, 6:5, 5:4, 4:3, 10:7, 3:2, ϕ :1, 23:13, 2:1, 5:2

It turned out that the quadrangles that were most frequently chosen were the ones constructed from the proportions 1:1 and ϕ :1, with 24% of the votes on both. ϕ :1 was The Golden Rectangle.

(voir page suivante le récapitulatif des votes obtenus)

Which one is the most beautiful ?

dimensions : 1 : 1

votes : 17

pourcentage : $\approx 24\%$

dimensions : 6 : 5

votes : 4

pourcentage : $\approx 6\%$

dimensions : 5 : 4

votes : 3

pourcentage : $\approx 4\%$

dimensions : 4 : 3

votes : 3

pourcentage : $\approx 4\%$

dimensions : 10 : 7

votes : 6

pourcentage : $\approx 9\%$

dimensions : 3 : 2

votes : 7

pourcentage : = 10 %

dimensions : φ : 1

votes : 17

pourcentage : $\approx 24\%$

dimensions : 23 : 13

votes : 3

pourcentage : $\approx 4\%$

dimensions : 2 : 1

votes : 2

pourcentage : $\approx 3\%$

dimensions : 5 : 2

votes : 8

pourcentage : $\approx 11\%$

Sondage réalisé sur un échantillon de 70 personnes, non représentatif de la population, sélectionné parmi les congressistes du Palais de la Découverte entre le 11 avril et le 14 avril 1992. Le plus étonnant est sans doute le score réalisé par le carré ... qui arrive à égalité avec le rectangle d'or !