

Golden Ratio Butterflies

Clarissa Grandi



For the Love of Mathematics, driven by reader suggestions and submissions, offers visual, engaging, and inspiring material for you, the teacher.

I have always been irresistibly drawn to color, symmetry, and pattern and have been lucky enough to pursue my interests in both mathematics and art.



The images featured here explore the use of the golden ratio, ϕ , as a proportioning guide. The “fractal packaging” nature of this ratio really intrigues me, and I have found that playing with it visually helps me better understand it mathematically. When I came across this beautiful origami swallowtail fold, designed by Evi Binzinger, I was compelled to make it from paper squares sized according to the ratio, with each smaller square approximately 0.618 times the previous one. I then began to play . . .



Clarissa Grandi, artfulmaths@gmail.com, Twitter: [@complexnumber](https://twitter.com/complexnumber), Instagram: [@clarissagrandi.art](https://www.instagram.com/clarissagrandi.art), is a Key Stage 5 (KS5; 12th grade) mathematics teacher at Thurston Community College, Suffolk, UK. Her interests include mathematical art and geometric origami. She blogs at www.artfulmaths.com and publishes the newsletters *Clarissa Grandi Art* ([link online](#)) and *Artful Maths Quarterly Newsletter* ([link online](#)).

doi:10.5951/AMTLT.2021.0218