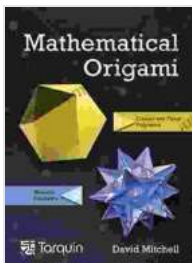


Mathematical Origami: Exploring Geometrical Shapes Through Paper Folding

Origami, the ancient Japanese art of paper folding, is not just a hobby or a form of entertainment. It is also a powerful mathematical tool that can be used to explore and understand complex geometrical shapes.



Mathematical Origami: Geometrical shapes by paper folding by Heinrich Mann

★★★★☆ 4.2 out of 5

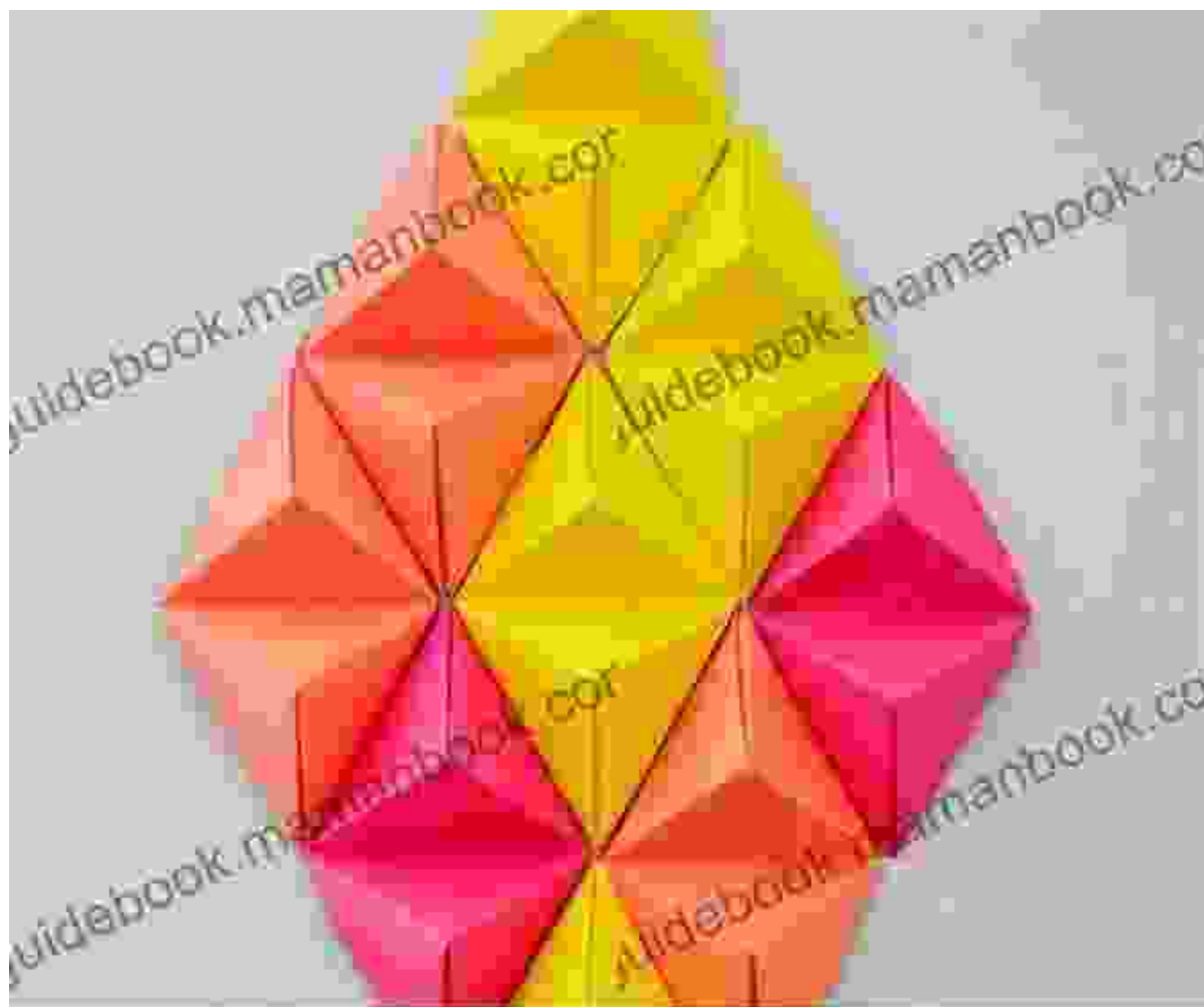
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Mathematical origami is a branch of mathematics that uses origami techniques to study the properties of geometrical shapes. Origami artists have been able to create models of shapes that are impossible to construct with traditional methods, and these models have helped mathematicians to better understand the structure of these shapes.

One of the most famous examples of mathematical origami is the Miura fold. This fold was discovered by Koryo Miura in 1970, and it has been

used to create a wide variety of origami models, including models of spheres, cones, and cylinders.



The Miura fold is just one example of the many ways that origami can be used to study geometrical shapes. Origami artists have also created models of polyhedra, knots, and even fractals.

Mathematical origami is a fascinating and challenging field that is still in its early stages of development. By combining the art of origami with the

science of mathematics, origami artists are helping to push the boundaries of human knowledge.

Types of Geometrical Shapes in Origami

Origami can be used to create a wide variety of geometrical shapes, including:

- **Polyhedra:** Polyhedra are three-dimensional shapes with flat faces. Some of the most common polyhedra include cubes, octahedra, and dodecahedra.
- **Knots:** Knots are closed curves that do not intersect themselves. Origami artists have been able to create models of knots that are impossible to untie.
- **Fractals:** Fractals are shapes that have self-similarity at all scales. Origami artists have been able to create models of fractals that are incredibly complex and beautiful.

Applications of Mathematical Origami

Mathematical origami has a wide range of applications in science, engineering, and design. For example, origami techniques have been used to:

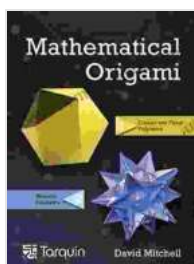
- Design deployable structures, such as solar arrays and antennas.
- Develop new medical devices, such as stents and scaffolds.
- Create novel materials, such as metamaterials and self-assembling materials.

Mathematical origami is a powerful tool that can be used to solve complex problems and create new and innovative designs. As the field continues to develop, we can expect to see even more amazing applications of this fascinating art and science.

Mathematical origami is a fascinating and challenging field that combines the art of paper folding with the science of mathematics. Origami artists have been able to create models of shapes that are impossible to construct with traditional methods, and these models have helped mathematicians to better understand the structure of these shapes.

Mathematical origami also has a wide range of applications in science, engineering, and design. For example, origami techniques have been used to design deployable structures, develop new medical devices, and create novel materials.

As the field of mathematical origami continues to develop, we can expect to see even more amazing applications of this fascinating art and science.



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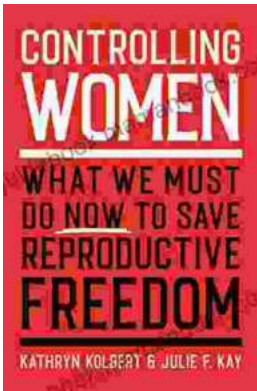
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