# Squares, Rectangles, and Other Quadrilaterals: An Exploration of Shape and Symmetry

Quadrilaterals are polygons with four sides and four angles. They are one of the most common shapes found in nature and are used in a wide variety of applications, from architecture and design to engineering and manufacturing.

There are many different types of quadrilaterals, each with its own unique properties and characteristics. In this article, we will explore the three most common types of quadrilaterals: squares, rectangles, and parallelograms.



#### **Squares, Rectangles, and Other Quadrilaterals**

by David A. Adler

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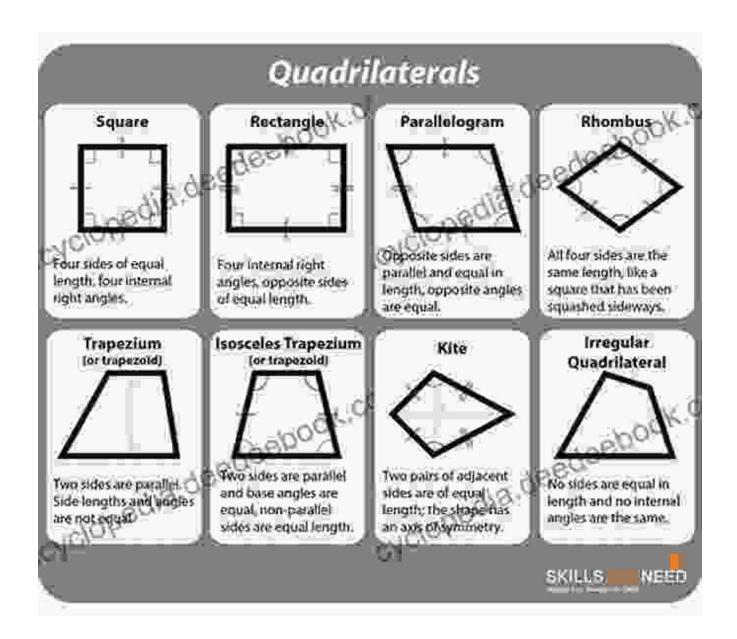
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## **Squares**

A square is a quadrilateral with four equal sides and four right angles. It is a regular polygon, meaning that all of its sides and angles are equal.

Squares are often used in architecture and design because of their symmetry and stability. They are also used in engineering and manufacturing because they are easy to construct and can be used to create strong and durable structures.



#### **Rectangles**

A rectangle is a quadrilateral with four right angles. It has two pairs of parallel sides, one pair of which is longer than the other. Rectangles are also regular polygons, meaning that all of their angles are equal.

Rectangles are often used in architecture and design because of their versatility and functionality. They are also used in engineering and manufacturing because they are easy to construct and can be used to create a variety of different structures.

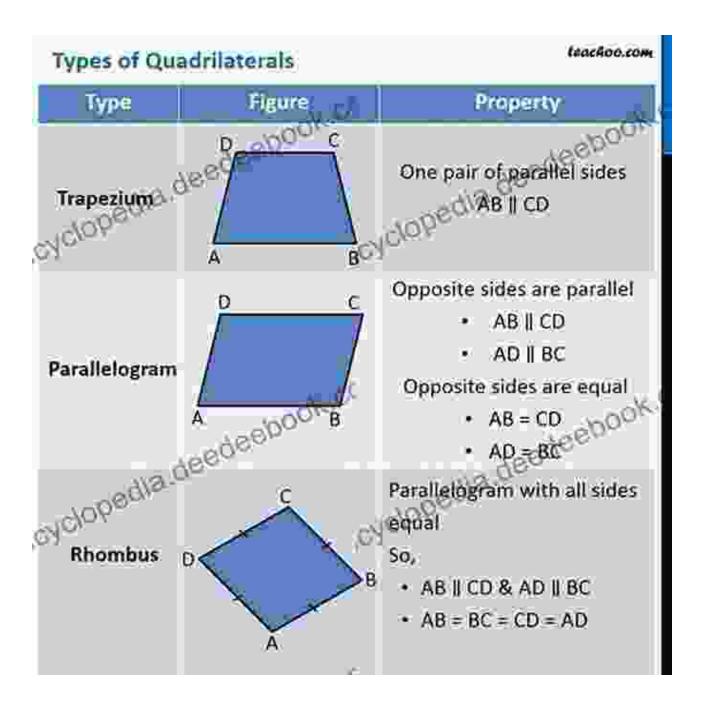
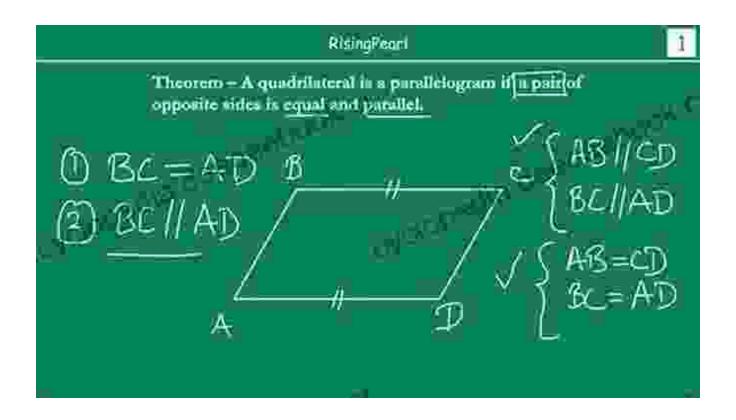


Figure 2: A rectangle

#### **Parallelograms**

A parallelogram is a quadrilateral with two pairs of parallel sides. It does not have to have right angles, and its opposite sides are equal in length.

Parallelograms are often used in architecture and design because of their symmetry and beauty. They are also used in engineering and manufacturing because they are easy to construct and can be used to create a variety of different structures.



#### Other Quadrilaterals

In addition to squares, rectangles, and parallelograms, there are a number of other types of quadrilaterals, including:

- Trapezoids: Quadrilaterals with one pair of parallel sides
- Rhombuses: Quadrilaterals with four equal sides
- Kites: Quadrilaterals with two pairs of adjacent sides that are equal

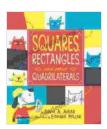
Deltoids: Quadrilaterals with two pairs of adjacent sides that are equal
 and one pair of opposite angles that are equal

#### **Applications of Quadrilaterals**

Quadrilaterals are used in a wide variety of applications, including:

- Architecture and design: Quadrilaterals are used in the construction of buildings, bridges, and other structures because of their strength and stability.
- Engineering and manufacturing: Quadrilaterals are used in the design and construction of machines, tools, and other products because they are easy to construct and can be used to create a variety of different shapes and sizes.
- Art and design: Quadrilaterals are used in the creation of paintings, sculptures, and other works of art because of their symmetry and beauty.

Quadrilaterals are a versatile and useful shape that can be found in a wide variety of applications. Their properties and characteristics make them ideal for use in architecture, design, engineering, manufacturing, and art.

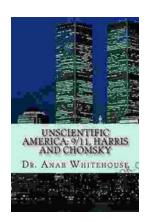


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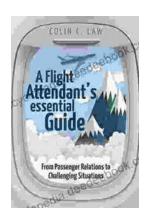
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