

## Classifying Quadrilaterals

In this video, we will explore the different classifications of quadrilaterals. To review, a quadrilateral is a closed, two-dimensional shape with 4 sides. Quadrilaterals are a big branch of polygons, and within the quadrilateral family we have a few different shapes. To start off we have parallelograms. A parallelogram is a quadrilateral whose opposite sides are parallel. The notation for parallel sides is arrows on each side. These two sides are parallel because they have 1 arrow in them. The top and bottom are parallel because they each have 2 arrows in them. Some examples of parallelograms are a rectangle, a square, and a rhombus. A rectangle is a quadrilateral with 4 right angles. A square is a special kind of rectangle – a square is a rectangle with four equal sides. Since squares are rectangles, squares must also have 4 right angles. A rhombus is a quadrilateral where all 4 sides have an equal length. Notice that a rhombus does not need to have right angles. Right angles have the corner annotation; notice how rectangles have 4 and squares have 4. Equal side lengths would have the same number of dashes. In a rhombus, each side would have 1 dash. In a square, each side would have 1 dash as well. But in a rectangle, two of the sides would have 1 dash because they have equal lengths, and two of the sides would have 2 dashes because they would have equal lengths. Outside of the parallelogram branch, we have trapezoids. A trapezoid is a quadrilateral that has one pair of parallel sides. A kite is not a parallelogram or a trapezoid. A kite is a quadrilateral that has no parallel sides, but the adjacent sides are equal. Adjacent means *next to*. This side and this side would be equal, and they would each have one dash. The bottom two sides are next to each other and are equal, so they each have 2 dashes. Let's put all of these shapes together to see how they compare. We have the quadrilateral family. In the family we have the trapezoids, the parallelograms, and the kites. Under parallelograms, we have rectangles, squares, and rhombi. All of these shapes are quadrilaterals.

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