


Name: \_\_\_\_\_  
Date: \_\_\_\_\_  
Class: \_\_\_\_\_

Geometry  
Unit 6  
Properties

The following are all the properties that you will need to know regarding each of the different types of the quadrilaterals that will be discussed this unit.

Parallelogram:

This is the only quadrilateral with a symbol that is used in place of its name – which is a little

parallelogram → 

- Opposite sides are congruent and parallel
- Opposite angles are congruent
- Consecutive angles are supplementary (because they are consecutive interior angles)
- Diagonals bisect each other
- Diagonals create congruent alternate interior angles

Rectangle:

Has all of the properties of a parallelogram AND these:

- Consecutive sides are perpendicular
- All 4 angles are right angles
- Diagonals are congruent
- Diagonals create isosceles triangles

Rhombus:

Has all of the properties of a parallelogram AND these:

- All 4 sides are congruent
- Diagonals are perpendicular
- Diagonals bisect the corner angles

Square:

Has all properties of a parallelogram and rhombus and square AND these:

- Diagonals create 45 degree angles in corners
- Diagonals create 4 congruent isosceles triangles

## Trapezoid

- Has one pair of parallel sides
- Consecutive angles along non-parallel sides are supplementary
- Diagonals create some congruent alternate interior angles (be careful which ones)

## Isosceles Trapezoid

Has all properties of a Trapezoid AND these:

- Base angles are congruent (two sets)
- Non-Parallel sides are congruent
- Diagonals are congruent

Methods to prove (know) that quadrilaterals are specific types of quadrilaterals:

## Parallelogram:

- Needs to have one of the properties **OR**
- Needs to have one set of opposite sides that is both parallel and congruent.

## Rectangle:

- Needs to be a parallelogram
- AND**
- Needs to have one property of a rectangle

## Rhombus:

- Needs to be a parallelogram
- AND**
- Needs to have one property of a rhombus

## Square:

- Needs to be a parallelogram
- AND**
- Needs to be a rectangle
- AND**
- Needs to be a rhombus

## Trapezoid:

- Needs one property of a trapezoid

## Isosceles Trapezoid:

- Needs to be a trapezoid.
- AND**
- Needs one property of an isosceles trapezoid