**Properties of Quadrilaterals** Name:\_\_\_\_\_\_\_\_\_\_\_



**Quadrilateral:**

Sum of Interior Angles:

Sum of Exterior Angles:



**Parallelogram:**

***If a Quadrilateral is a Parallelogram, then …***

It has all of the properties of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ plus the following 5 more…

1. Opposite sides are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. (definition)



1. Opposite sides are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**NOTE:** If \_\_\_\_\_\_\_or \_\_\_\_\_\_ of the properties listed on this page is true then the quadrilateral **MUST** be a ***\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_***.



1. Opposite Angles are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.



1. Consecutive Angles are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.



1. Diagonals \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_each other.



**Rhombus:**

If a quadrilateral is a ***rhombus***, then it has all properties of  ***\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*** plus 2 more…



**Note:** ANY ***quadrilateral*** with 4 congruent sides will be a ***\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_***

 ***( )***

1. All sides are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. (definition)
2. Diagonals are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_and they \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ opposite \_\_\_\_\_\_\_\_\_\_\_\_\_\_.

(plus it has all other properties of parallelogram)



**CAUTION**: A ***quadrilateral*** having perpendicular diagonals, \_\_\_\_\_\_\_ \_\_\_\_\_ be a ***rhombus***! (Could be a kite)

**HOWEVER**, a ***\_\_\_\_\_\_\_\_\_\_\_\_*** with perpendicular diagonals **IS** a ***rhombus***.

**Rectangle:**

If a quadrilateral is a ***rectangle***, then it includes properties of ***\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_***and also…



**Note**: ANY ***quadrilateral*** with 4 congruent (right / 90 degrees) angles will be a ***\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_( )***

1. All Angles are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. (definition)

**CAUTION:** A ***Quadrilateral*** with congruent diagonals \_\_\_\_\_\_\_\_ \_\_\_\_ be a ***rectangle***. (It could be an isosceles trapezoid)

**HOWEVER**, a ***\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_***with congruent diagonals **IS** a ***Rectangle***

1. The diagonals are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.



**Square:** \*\*Squares are the **MASTERS** of the Parallelograms!

Properties: **INCLUDES ALL OF THE ABOVE PROPERTIES.**

***\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_,*** *and* ***\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.***

\*\*A square is a ***\_\_\_\_\_\_\_\_\_\_ - \_\_\_\_\_\_\_\_\_\_\_\_.***

***ALL OF THE FOLLOWING ARE TRUE!!***

* All \_\_\_\_\_\_\_\_ are congruent
* All \_\_\_\_\_\_\_ are congruent(90 degrees)
* Diagonals are \_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Diagonals are \_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Diagonals \_\_\_\_\_\_\_\_\_\_\_\_ each other
* Diagonals \_\_\_\_\_\_\_\_\_\_ opposite \_\_\_\_\_
*



**Trapezoid:**



Properties: Includes properties of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ plus…

1. Exactly (only) one pair of opposite \_\_\_\_\_\_\_\_\_\_\_\_\_ are \_\_\_\_\_\_\_\_\_\_\_\_\_. (definition)
2. Leg Angles are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



1. The **Midsegment.** Definition:

 Formula:

**Isosceles Trapezoid:**



Properties: Includes above properties of Trapezoids plus …

1. Legs are\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. (definition)
2. Each pair of base angles are \_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Opposite Angles are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



1. Diagonals are\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Kites:**

1. Two pairs of consecutive sides are \_\_\_\_\_\_\_\_\_\_\_ but opposite sides are \_\_\_\_\_\_. (definition)



1. Diagonals\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



1. Exactly(only) one diagonal is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and the

other diagonal \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ a pair of opposite angles.



1. Exactly(only) one pair of opposite \_\_\_\_\_\_\_\_\_\_\_\_\_ are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.