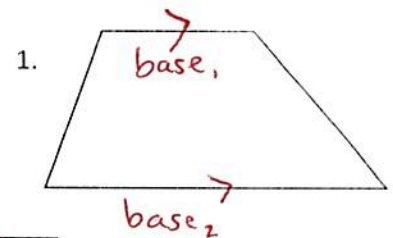


BOOK
OF
QUADRIALATERALS

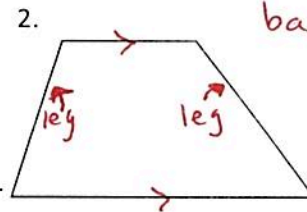
Coach
Chantry

Properties of Trapezoids

1. Exactly one pair of || sides called the bases

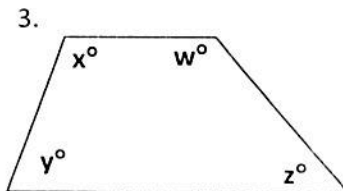


2. The non-parallel sides are called the legs



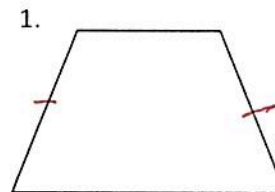
3. Same Side Interior angles are Supplementary

* $\underline{x^\circ} + \underline{y^\circ} = 180^\circ$ and $\underline{w^\circ} + \underline{z^\circ} = 180^\circ$

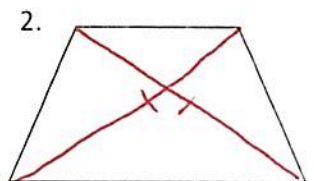


Properties of Isosceles Trapezoids

1. The legs are ≅

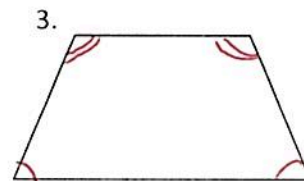


2. The diagonals are ≅



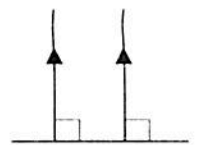
3. The base angles are ≅

* Base angles of a trapezoid are either pair of angles that share a base as a common side

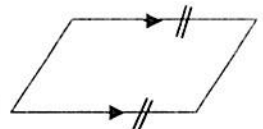


TRAPEZOID

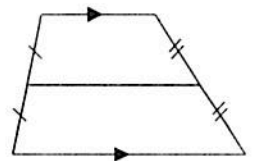
Perpendicular/Parallel Line Theorem: if two lines are \perp to the same line, then the lines are parallel (\parallel) to each other.



Parallelogram/Congruent-Parallel Side Theorem: if one pair of opposite sides of a quadrilateral is both congruent and parallel, then the quadrilateral is a parallelogram.



Trapezoid Midsegment Theorem: The midsegment of a trapezoid is parallel to each of the bases and its length is one half the sum of the bases (average measure of bases).



Theorems for Quadrilaterals

Properties of Kites

1. Two pairs of consecutive sides that are \cong

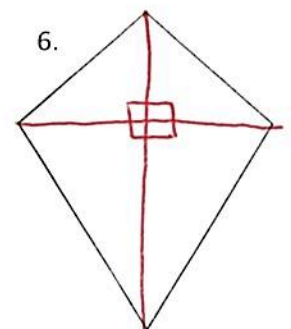
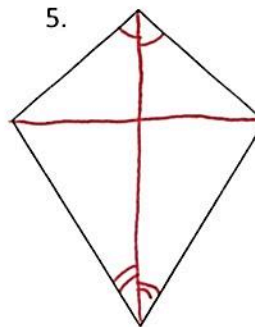
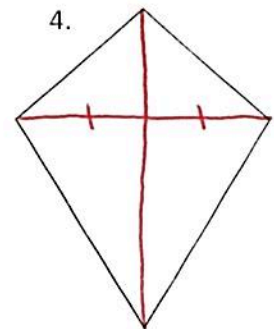
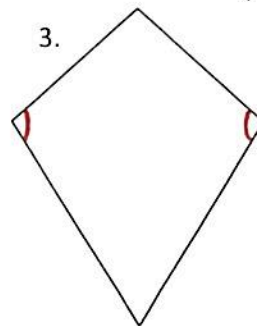
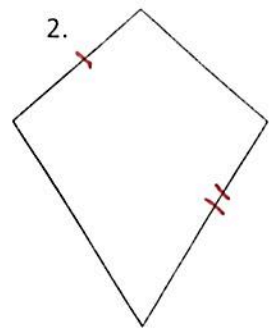
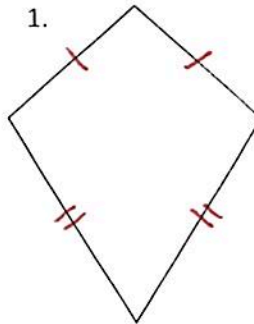
2. Opposite sides are not \cong

3. One pair of opposite angles is \cong

4. One diagonal bisects the other diagonal

5. One diagonal bisects its vertex angles

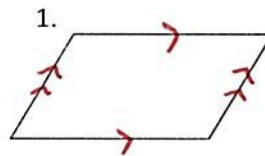
6. The diagonals are \perp and form 4 right \angle 's



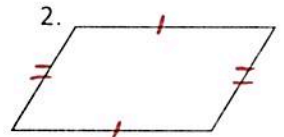
KITE

Properties of Parallelograms

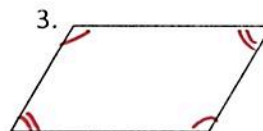
1. Both pairs of opposite sides are parallel



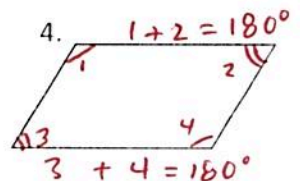
2. Both pairs of opposite sides are \cong



3. Both pairs of opposite angles are \cong



4. Consecutive angles are Supplementary



5. The diagonals bisect each other

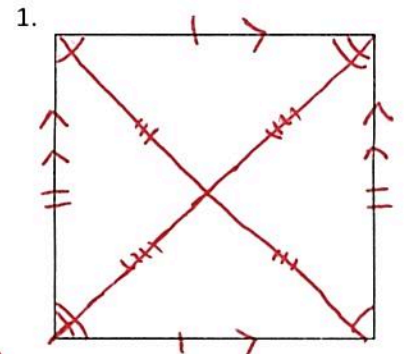


PARALLELOGRAM

Properties of a Square

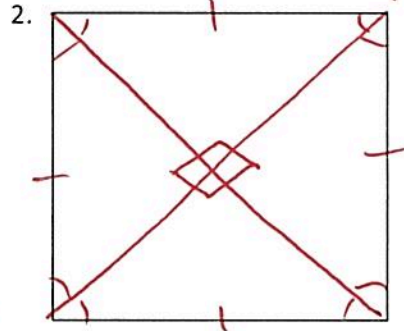
1. All properties of a Parallelogram:

- a. Both pairs of opposite sides are ||
- b. Both pairs of opposite sides are ≅
- c. Both pairs of opposite angles are ≅
- d. The diagonals bisect each other



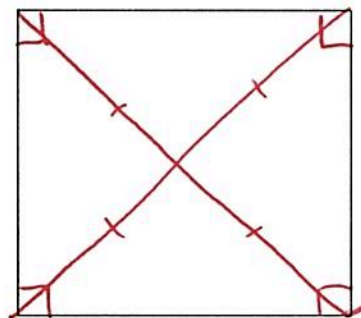
2. All properties of a Rhombus:

- a. All sides are ≅
- b. Diagonals are ⊥ and form 4 right ∠'s
- c. The diagonals bisect the angles



3. All properties of a Rectangle:

- a. All angles are ≅ and right
- b. Diagonals are ≅

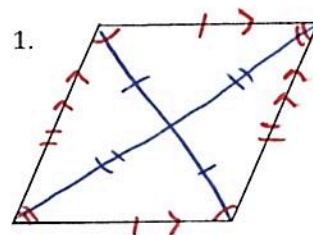


SQUARE

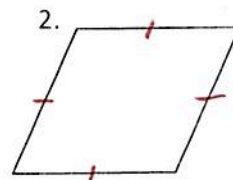
Properties of a Rhombus

1. All properties of a Parallelogram:

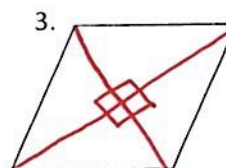
- Both pairs of opposite sides are ||
- Both pairs of opposite sides are ≅
- Both pairs of opposite angles are ≅
- The diagonals bisect each other



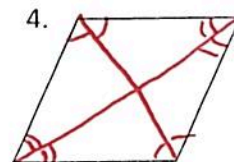
2. All sides are ≅



3. Diagonals are ⊥ and form 4 right x's



4. The diagonals bisect the angles

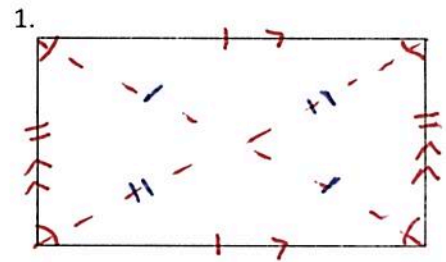


RHOMBUS

Properties of a Rectangle

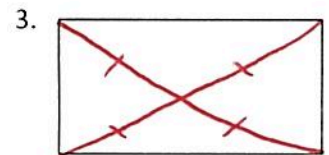
1. All properties of a Parallelogram:

- a. Both pairs of opposite sides are ||
- b. Both pairs of opposite sides are ≅
- c. Both pairs of opposite angles are ≅
- d. The diagonals bisect each other



2. All angles are ≅ and right

3. Diagonals are ≅ but not \perp



RECTANGLE