H.Geometry – Chapter 5– Definition Sheet

Properties of Rhombuses:

Definition of a rhombus

A parallelogram with ___four congruent___ sides.

Belongs to : ___kites___ , ___parallelograms___ , ___trapezoids___
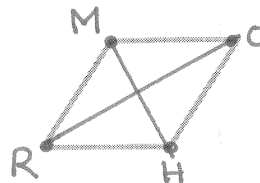
(1) Because a rhombus is a :

___kite___ : Diagonals are perpendicular (___Kite diagonals thm.___)

___parallelogram___ : Diagonals bisect each other. (___parallelogram diagonals Theorem___)

Rhombus Diagonal Theorem

The diagonals of a rhombus are ___perpendicular bisectors___ of each othe

$\overline{RO}$ is ⊥ bisector of $\overline{MH}$
$\overline{MH}$ is ⊥ bisector of $\overline{RO}$

(2) Because a rhombus is a :

___kite___ : Diagonal connecting the vertex angles is the angle bisector of the vertex

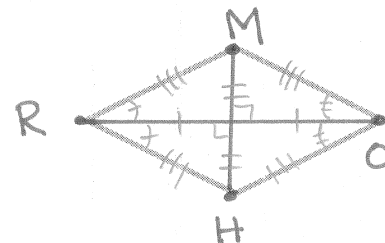angles (___Kite angle bisector Thm.___) and a rhombus has

___2 sets of vertex angles___ .

Rhombus Angle Bisector Theorem.

The diagonals of a rhombus ___bisect___ the angles of the rhombus
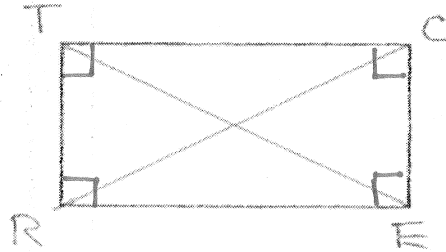
$\overline{RO}$ bisects ∠R and ∠O
$\overline{MH}$ bisects ∠M and ∠H

Question:
What is true about the 4 triangles formed by the 2 diagonals of the rhombus?
___All triangles created are congruent___

Properties of Rectangles:

Definition of rectangle

A parallelogram with _four congruent angles_
  (making each _∠ = 90°_)

Belongs to: _parallelograms_ , _Isosceles Trapezoids_ ,
  trapezoids (_has their properties_)

(1) Because a rectangle is a :

parallelograms : Diagonals are ~~perpendicular~~ bisectors
                  of each other
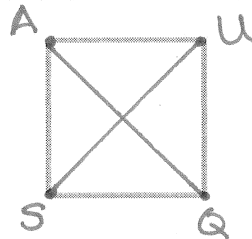   (_parallelogram diagonals Theorem_

Isosceles Trapezoid : Diagonals are congruent.
                  (_Isosceles Trapezoid diagonals Thm_)

Rectangle
Diagonal Theorem

The diagonals of a rectangle are _congruent_
and _bisect each other_

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Properties of Squares:	
Definition of Square	A quadrilateral that is equilateral and equiangular Belongs to: all types of quadrilaterals **(1) Because a square is a :** Isosceles Trapezoid / : Diagonals are congruent Rectangle (Isosceles Trapezoid Diagonals Thm. Kite / Rhombus : Diagonals are perpendicular (Kite diagonals Theorem parallelogram / : Diagonals are bisectors of each other. rhombus / rectangle (parallelogram diagonals Thm.
Square Diagonals Theorem	The diagonals of a square are congruent , perpendicular and bisect each other .