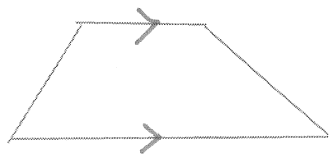


H. Geometry – Chapter 5 – Definition Sheet

Section 5.3 (Day 2)

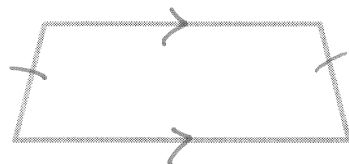
REVIEW:

Trapezoid Characteristics



- quadrilateral w/ at least one pair parallel
- consecutive angles between bases are supplementary

Isosceles Trapezoid Characteristics



- trapezoid w/ congruent legs
- both sets of base \angle 's are \cong
- diagonals of isosceles trap. are \cong

Definition of Kite

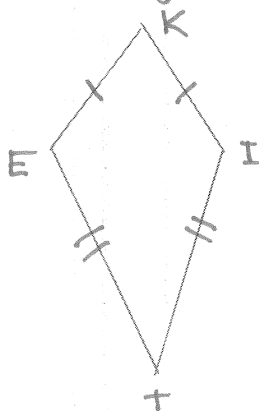
A quadrilateral with exactly 2 pairs of distinct congruent consecutive sides.

Parts of a Kite

vertex angles - The angles formed by the congruent sides
 $\angle K$ and $\angle T$

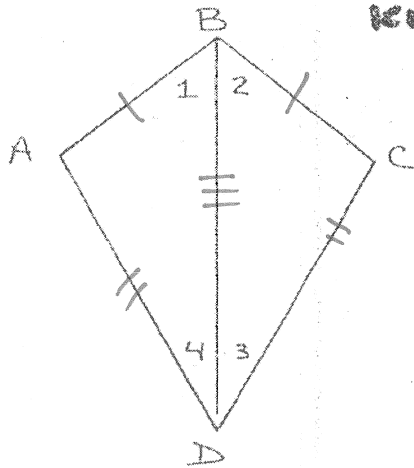
non-vertex angles The angles formed by the non-congruent sides.

$\angle E$ and $\angle I$



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PROOF OF : **KITE ANGLE BISECTOR THEOREM**
KITE ANGLES THEOREM



GIVEN: KITE ABCD WITH
 VERTEX \angle 'S $\angle B$ AND $\angle D$

PROVE: ① $\angle 1 \cong \angle 2$
 $\angle 3 \cong \angle 4$
 ② $\angle A \cong \angle C$

CONCLUSIONS	JUSTIFICATIONS
0. KITE ABCD WITH VERTEX \angle 'S $\angle B$ AND $\angle D$	0. GIVEN
1. $\overline{BA} \cong \overline{BC}$; $\overline{AD} \cong \overline{CD}$	1. Defn. of Kite
2. $\overline{BD} \cong \overline{BD}$	2. Reflexive
3. $\triangle BAD \cong \triangle BCD$	3. SSS \cong
4. $\angle 1 \cong \angle 2$ $\angle 3 \cong \angle 4$ $\angle A \cong \angle C$	4. CPCTC

Kite Angle Bisector Theorem

The diagonal Connecting the vertex angles of a kite is
 the angle bisector of the vertex angles.

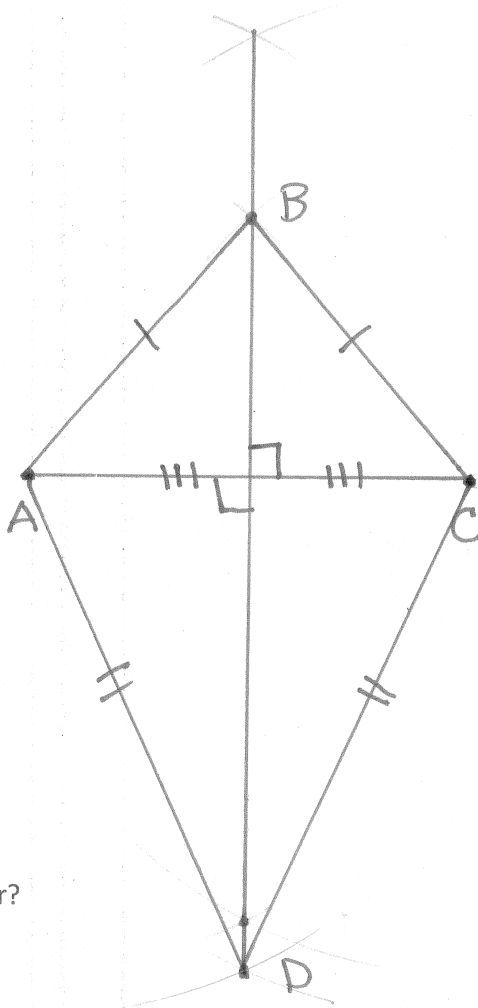
Kite Angles Theorem

The non-vertex of a kite are congruent.

H.Geometry – Chapter 5– Definition Sheet

Investigation:

Draw a line and label the endpoints "A" and "C"
Construct a kite ABCD with AC as a diagonal
Construct the perpendicular bisector of AC.



What do you notice about your perpendicular bisector?

Kite Diagonals Theorem	The diagonals of a kite are <u>perpendicular</u> .
Kite Diagonal Bisector Theorem	The diagonals connecting the vertex angles of a kite is the <u>perpendicular bisector</u> of the other diagonal.