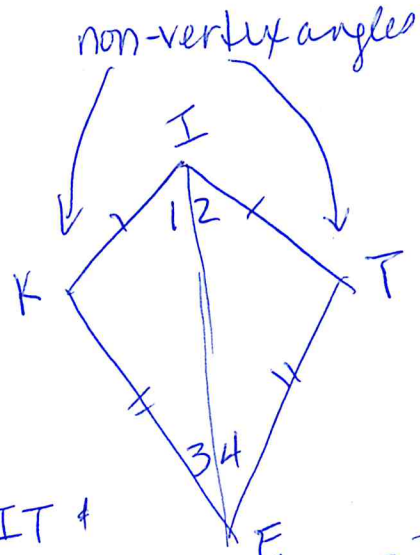


∠KIT & ∠KET are vertex angles

Copy all of this into "In-Class Section" and fill-in-the-blanks.

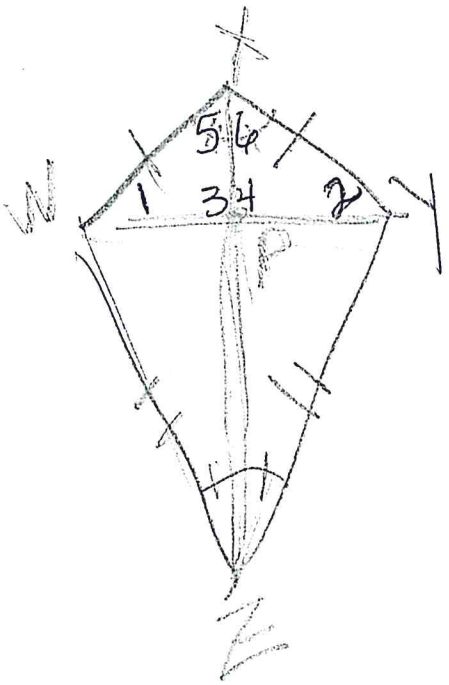
Given: Kite KITE with $\overline{KI} \cong \overline{TI}$, $\overline{KE} \cong \overline{TE}$ and diagonal $\overline{IE}$.

Show: $\angle K \cong \angle T$ $\angle 1 \cong \angle 2$ $\angle 3 \cong \angle 4$

	What I know	Why I know
(1)	$\overline{KI} \cong \overline{TI}$, $\overline{KE} \cong \overline{TE}$	? Given
(2)	? $\overline{IE} \cong \overline{IE}$	Reflexive Property (liked shared side)
(3)	$\triangle KIE \cong \triangle TIE$	? SSS Shortcut
(4)	? $\angle K \cong \angle T$	Corresponding parts of $\cong$ polygons are $\cong$.
(5)	? $\angle 1 \cong \angle 2$	
(6)	? $\angle 3 \cong \angle 4$	

∴ The non-vertex angles of a kite are congruent.

∴ The vertex angles of a kite are bisected by a diagonal.



Because WXYZ is a kite,
$\overline{WX} \cong \overline{XY}$, making
$\triangle WXY$ isosceles, which
means base angles $\angle 1 \cong \angle 2$.
$\angle 5 \cong \angle 6$ because we proved it (C-38).
$\overline{XZ}$ is an $\angle$ bisectr.

So SAS, $\triangle WXP \cong \triangle YXP$.
This means $\angle 3 \cong \angle 4$ and $\overline{PW} \cong \overline{PY}$
(corresp parts).
If $\angle 3 \& \angle 4$ are $\cong$ and linear pairs,
then they are right angles.

So "Kite diagonals are perpendicular,"
and "The diagonal connecting the vertex
angles $\perp$ bisects the other one."