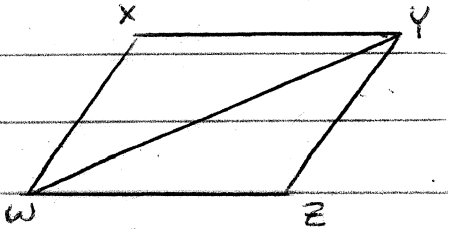
Geometry Ch 4-5 Exer. pg 241 #3-14, 20-22, 25-27

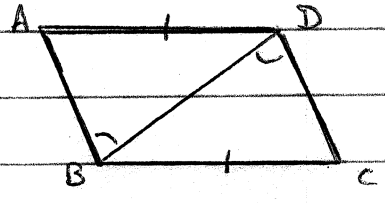
Use the diagram to name the included angle between given pair of segments.



3.	$\overline{XY}$ and $\overline{YW}$	$\angle XYW$	4.	$\overline{WZ}$ and $\overline{ZY}$	$\angle Z$
5.	$\overline{ZW}$ and $\overline{YW}$	$\angle ZWY$	6.	$\overline{WX}$ and $\overline{YX}$	$\angle X$
7.	$\overline{XY}$ and $\overline{YZ}$	$\angle XYZ$	8.	$\overline{WX}$ and $\overline{WZ}$	$\angle XWZ$

Decide whether there is enough info given to prove that the triangles are congruent by S-A-S.

9.



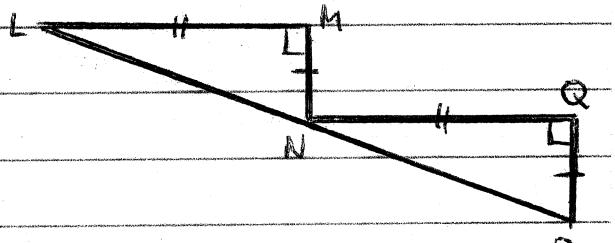
There are two pair of congruent sides:

$\overline{AD} \cong \overline{CB}$, Given

$\overline{BD} \cong \overline{BD}$, Reflexive

For S-A-S congruency, we need info on the included angles $\angle ADB$ and $\angle CBD$, which we don't have. Congruency of $\angle ABD$ and $\angle CDB$ does not help. NOT ENOUGH INFO

10.



$\overline{LM} \cong \overline{NQ}$, Given

$\overline{MN} \cong \overline{QP}$, Given

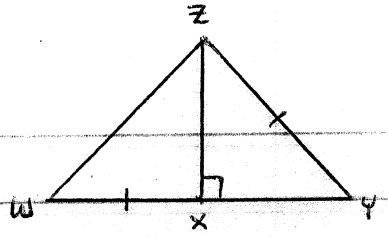
The included angles for these sides, $\angle M$ and $\angle Q$, are each indicated as right.

Since all right angles are $\cong$,

$\angle M \cong \angle Q$

Thus $\triangle LMN \cong \triangle NQP$

11.



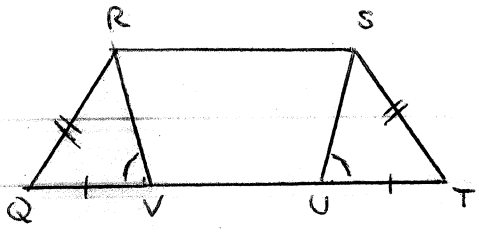
$\overline{WX} \cong \overline{YZ}$, Given

$\overline{XZ} \cong \overline{XZ}$, Reflexive

For S-A-S congruency we need info on the included angles $\angle WXZ$ and $\angle YZX$.

NOT ENOUGH INFO

12.



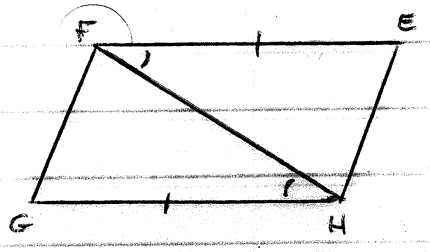
$\overline{QR} \cong \overline{TS}$, Given

$\overline{QV} \cong \overline{TU}$, Given

For S-A-S congruency we need info on the included angles, $\angle Q$ and $\angle T$.

Despite info of angle congruency at V and U, NOT ENOUGH INFO

13.



$\overline{FE} \cong \overline{HG}$, Given

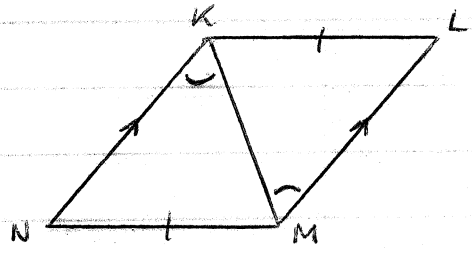
$\overline{FH} \cong \overline{FH}$, Reflexive

For S-A-S congruency we need info on the included angles, $\angle GHF$ and $\angle EFH$.

Thus diagram gives these angles as congruent.

Thus, $\triangle EFH \cong \triangle GHF$

14.



$\overline{KL} \cong \overline{MN}$, Given

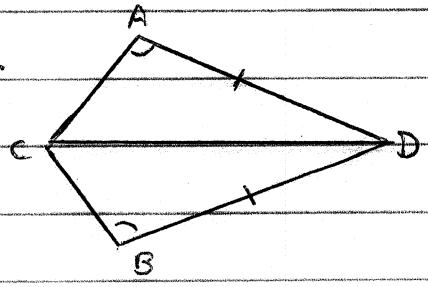
$\overline{KM} \cong \overline{KM}$, Reflexive

Due to parallel line markings and transversal $\overline{KM}$, we know $\angle NKM \cong \angle LMK$. However, these aren't the included angles to the two congruent sides.

Thus, NOT ENOUGH INFO

Decide whether there is enough info to prove the triangles are congruent.

20.



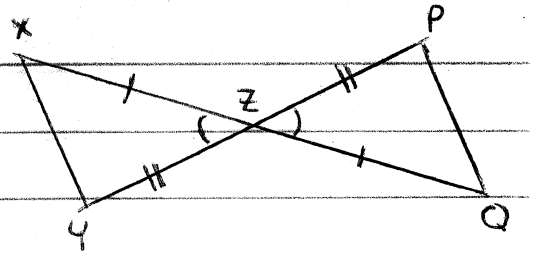
$\angle A \cong \angle B$, Given

$\overline{AD} \cong \overline{BD}$, Given

$\overline{CD} \cong \overline{CD}$, Reflexive

The combination of these congruencies in NOT SUFFICIENT to show the triangles are congruent.

21.



Given: Z is midpoint of $\overline{PY}$ and $\overline{XQ}$

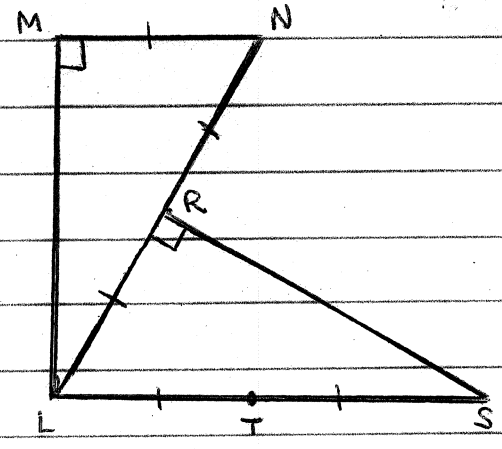
$\overline{XZ} \cong \overline{QZ}$, Defn of Midpoint

$\overline{YZ} \cong \overline{PZ}$, Defn of Midpoint

The included angles of these segment, $\angle XZY$ and $\angle QZP$, are congruent because they are Vertical Angles.

Thus, $\triangle XZY \cong \triangle QZP$ by S-A-S.

22.



$\overline{MN} \cong \overline{RL}$ Given

$\overline{NL} \cong \overline{LS}$ Segment Addn/Substitution

Not enough info to show $\cong$ by either S-S-S or S-A-S.

However, because each triangle is shown as right, we can show congruency by H-L [Hypotenuse-Leg]

Thus $\triangle LMN \cong \triangle SRL$

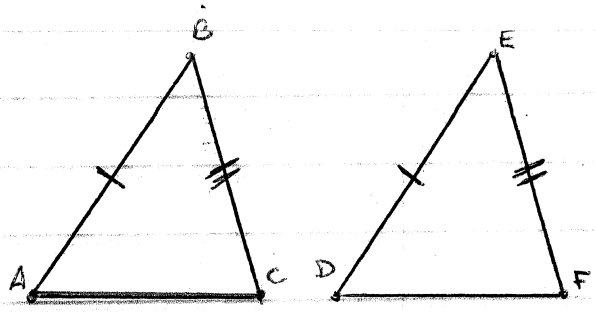
State the third congruence that must be given to prove that $\triangle ABC \cong \triangle DEF$ using indicated postulate.

25. Use S-S-S Postulate,

given: $\overline{AB} \cong \overline{DE}$

$\overline{CB} \cong \overline{FE}$

$\overline{AC} \cong \overline{DF}$

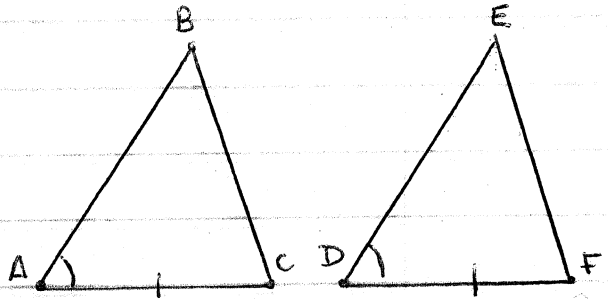


26. Use S-A-S Postulate,

given: $\angle A \cong \angle D$

$\overline{CA} \cong \overline{FD}$

$\overline{AB} \cong \overline{DE}$



27. Use S-A-S Postulate,

given $\angle B \cong \angle E$

$\overline{AB} \cong \overline{DE}$

$\overline{BC} \cong \overline{EF}$