

Triangles Review!

Geometry Online!

Name _____

PRACTICE 1- Proofs Triangles - (G.6) - SSS, SAS, ASA, AAS, HL

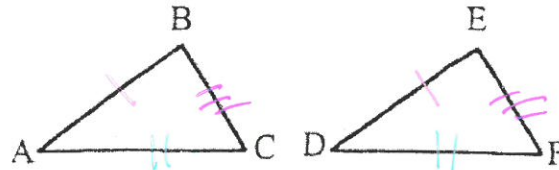
Date _____ Period _____

Part I: Mark the triangles based on the given information and what one can mark shown in the diagram. Then complete the statement.

1. Given: $\overline{AB} \cong \overline{DE}$, $\overline{AC} \cong \overline{DF}$,
 $\overline{BC} \cong \overline{EF}$

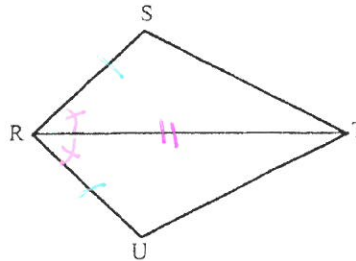
Complete the statement:

$\triangle ABC \cong \triangle DEF$ by SSS.



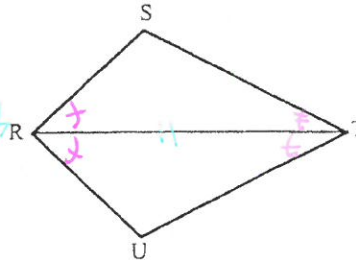
2. Given: \overline{RT} bisects $\angle SRU$,
 $\overline{RS} \cong \overline{RU}$. *reflexive property*

$\triangle STR \cong \triangle UTR$ by AAS.



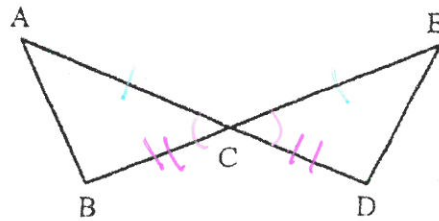
3. Given: \overline{RT} bisects $\angle SRU$ and
 \overline{RT} bisects $\angle STU$. *reflexive property*

$\triangle RST \cong \triangle RUT$ by ASA.



4. Given: $\overline{AC} \cong \overline{EC}$ and $\overline{BC} \cong \overline{DC}$
vertical angles

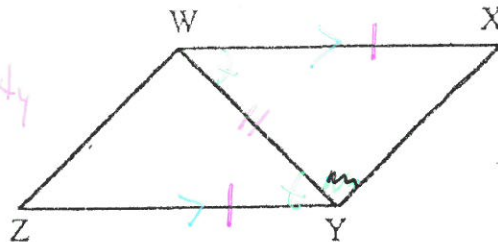
$\triangle ABC \cong \triangle EDC$ by ASA.



5. Given: $\overline{WX} \parallel \overline{YZ}$ and $\overline{WX} \cong \overline{YZ}$
reflexive property

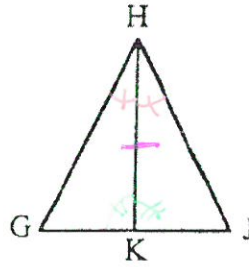
$\triangle XYW \cong \triangle ZYW$ by ASA.

alternate interior angles



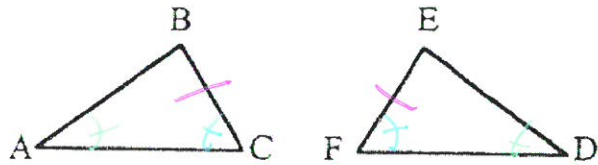
6. Given: \overline{HK} bisects $\angle GHJ$,
 $\overline{HK} \perp \overline{GJ}$ *reflexive property*

$\triangle GHK \cong \triangle JHK$ by ASA.



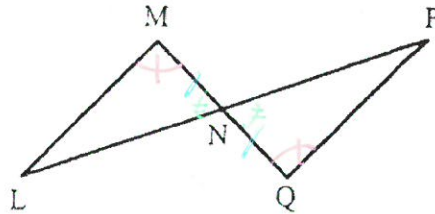
7. Given: $\angle C \cong \angle F$, $\overline{BC} \cong \overline{EF}$,
 $\angle A \cong \angle D$

$\triangle BCA \cong \triangle EFD$ by AAS



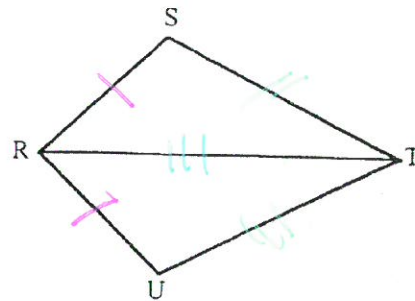
8. Given: $\angle M \cong \angle Q$,
 N is the midpoint of \overline{MQ}
vertical angles

$\triangle LNM \cong \triangle PNQ$ by ASA.



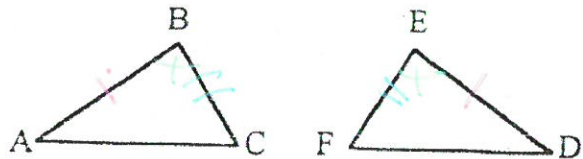
9. Given: $\overline{RS} \cong \overline{RU}$, $\overline{TS} \cong \overline{TU}$
reflexive property

$\triangle SRT \cong \triangle URT$ by SSS.



10. Given: $\overline{AB} \cong \overline{DE}$, $\overline{BC} \cong \overline{EF}$,
 $\angle B \cong \angle E$

$\triangle ABC \cong \triangle DEF$ by SAS.



Triangle Review

Geometry Online!

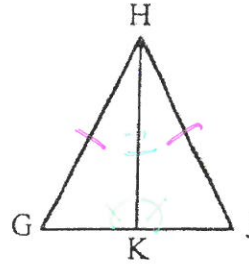
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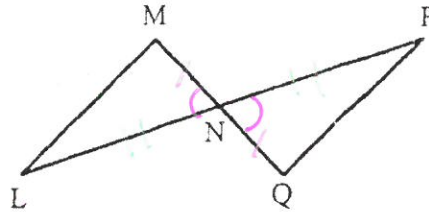
11. Given: $\overline{GH} \cong \overline{JH}$
 $\overline{HK} \perp \overline{GJ}$ reflexive property

$\triangle GHK \cong \triangle$ _____ by ASS. not congruent



12. Given: N is the midpoint of \overline{MQ} and \overline{LP}
 vertical angles

$\triangle MNL \cong \triangle QNP$ by ASA

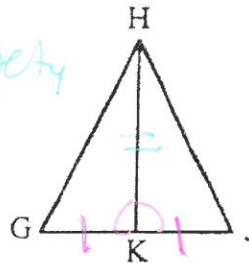


Part II: State the THIRD PART needed to prove the following triangles congruent.

13. Given: \overline{HK} bisects \overline{GJ} reflexive property

$\triangle GKH \cong \triangle JKH$ by SAS if one knows that

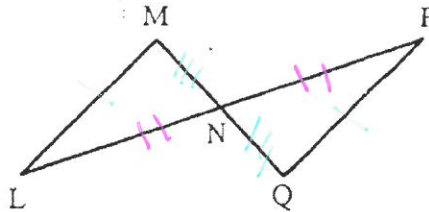
$\angle HKG \cong \angle HKJ$



14. Given: $\overline{LM} \cong \overline{PQ}$, N is the midpoint of \overline{LP}

$\triangle NML \cong \triangle NQP$ by SSS if one knows that

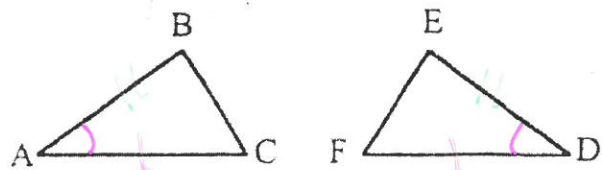
$\overline{MN} \cong \overline{NQ}$



15. Given: $\overline{AC} \cong \overline{DF}$, $\overline{AB} \cong \overline{DE}$

$\triangle ABC \cong \triangle DEF$ by SAS if one knows that

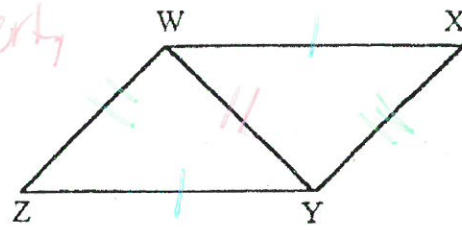
$\angle BAC \cong \angle EDF$



16. Given: $\overline{WX} \cong \overline{YZ}$ reflexive property

$\triangle WXY \cong \triangle YZW$ by SSS if one knows that

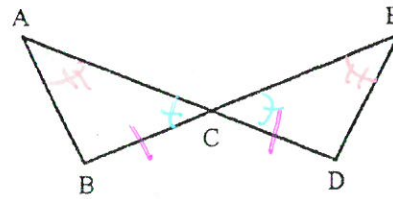
$\underline{\overline{WY}} \cong \underline{\overline{YX}}$.



17. Given: $\overline{BC} \cong \overline{DC}$ vertical angles

$\triangle ABC \cong \triangle EDC$ by AAS if one knows that

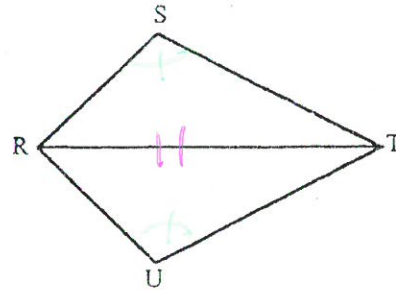
$\underline{\angle BAC} \cong \underline{\angle DEC}$.



18. Given: $\angle S \cong \angle U$ reflexive property

$\triangle TRS \cong \triangle TRY$ by AAS if one knows that

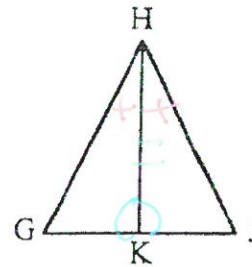
$\underline{\angle STR} \cong \underline{\angle URT}$.



19. Given: \overline{HK} bisects $\angle GHJ$ reflexive property

$\triangle HKG \cong \triangle HKJ$ by ASA if one knows that

$\underline{\angle HKG} \cong \underline{\angle HKJ}$.



20. Given: $\overline{LM} \cong \overline{PM}$, $\overline{MQ} \cong \overline{MN}$

$\triangle LQM \cong \triangle PNM$ by SSS if one knows that

$\underline{\overline{LQ}} \cong \underline{\overline{PN}}$.

