Geometry Online! **Name** _____

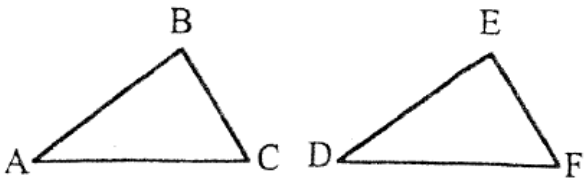
PRACTICE 1– Proofs Triangles - (G.6) – SSS, SAS, ASA, AAS, HL **Date** _____**Period** _____

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

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

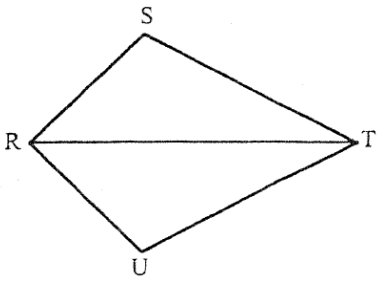
   Complete the statement:

   $\Delta ABC \cong \Delta$____by_____.



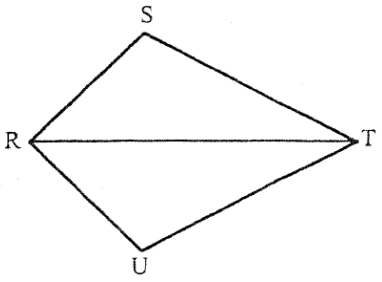
2. $Given: \overline{RT}\ bisects < SRU, \overline{RS} \cong \overline{RU}.$

   $\Delta STR \cong \Delta$____by_____.



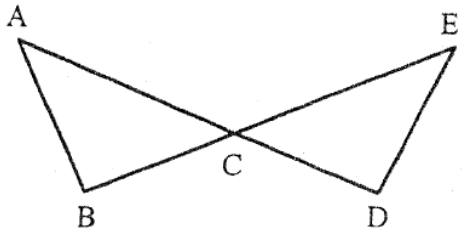
3. $Given: \overline{RT}\ bisects < SRU\ and\ \overline{RT}\ bisects < STU.$

   $\Delta RST \cong \Delta$____by_____.



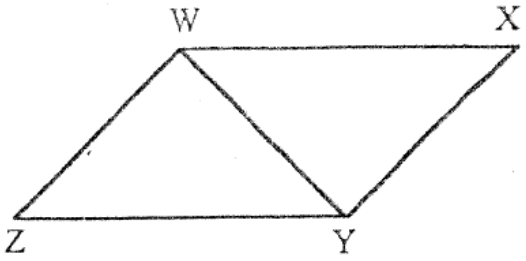
4. $Given: \overline{AC} \cong \overline{EC}\ and\ \overline{BC} \cong \overline{DC}$

   $\Delta ABC \cong \Delta$____by_____.

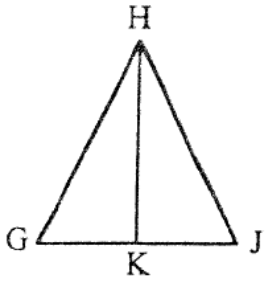


5. $Given: \overline{WX} \parallel \overline{YZ}\ and\ \overline{WX} \cong \overline{YZ}$

   $\Delta XYW \cong \Delta$_____by_____.

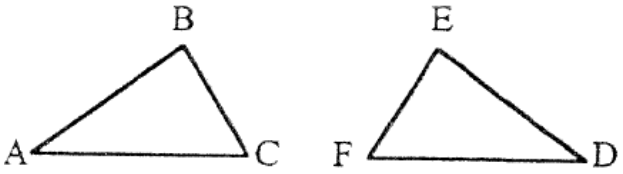


6. *Given*: $\overline{HK}$ *bisects* $\angle GHJ$, $\overline{HK} \perp \overline{GJ}$



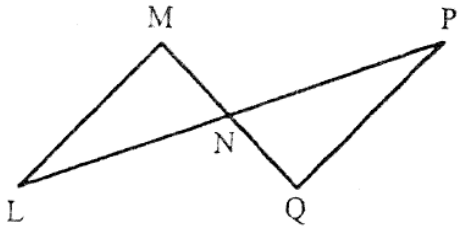
$\Delta GHK \cong \Delta$_____by_____.

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



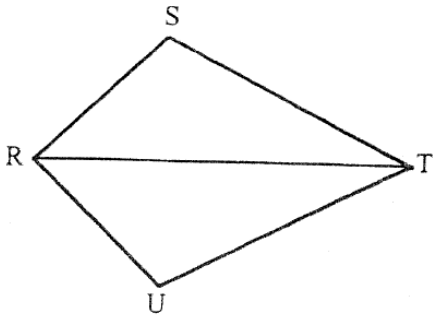
$\Delta BCA \cong \Delta$_____by_____.

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



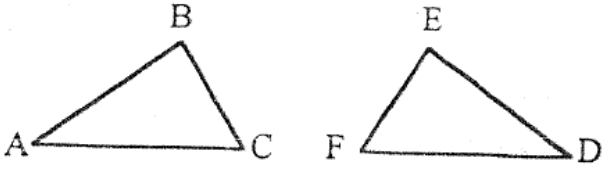
$\Delta LNM \cong \Delta$_____by_____.

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



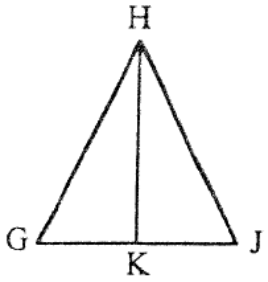
$\Delta SRT \cong \Delta$_____by_____.

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



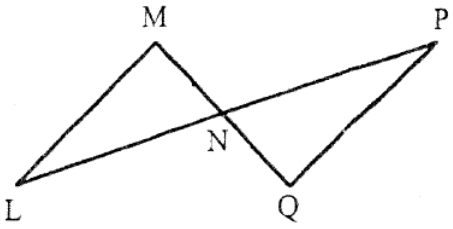
$\Delta ABC \cong \Delta$_____by_____.

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



$\Delta GHK \cong \Delta$_____*by*_____.

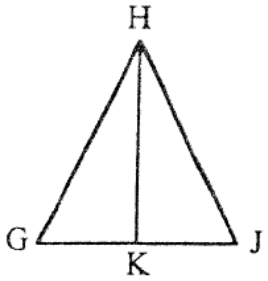
12. *Given*: *N is the midpoint of* $\overline{MQ}$ *and* $\overline{LP}$



$\Delta MNL \cong \Delta$ _____*by*_____.

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

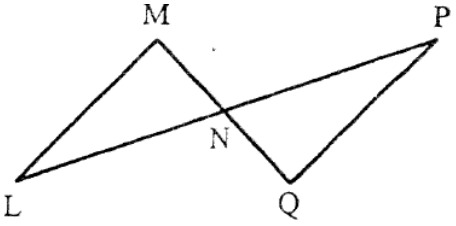
13. *Given*: $\overline{HK}$ *bisects* $\overline{GJ}$



$\Delta GKH \cong \Delta JKH$ *by* SAS if one knows that

_____ ≅ _____.

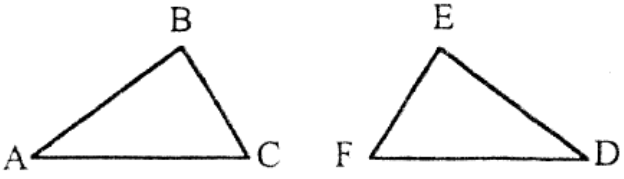
14. *Given*: $\overline{LM} \cong \overline{PQ}$, *N is the midpoint of* $\overline{LP}$



$\Delta NML \cong \Delta NQP$ *by* SSS if one knows that

_____ ≅ _____.

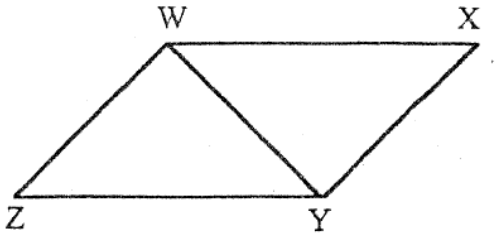
15. *Given*: $\overline{AC} \cong \overline{DF}$, $\overline{AB} \cong \overline{DE}$



$\Delta ABC \cong \Delta DEF$ *by* SAS if one knows that

_____ ≅ _____.

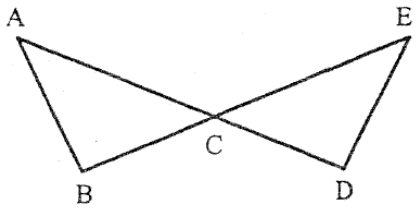
16. $Given: \overline{WX} \cong \overline{YZ}$



$\Delta WXY \cong \Delta YZW$ *by* SSS if one knows that

_____ ≅ _____.

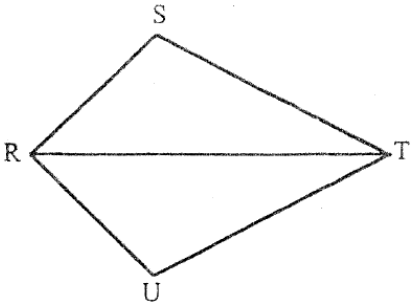
17. $Given: \overline{BC} \cong \overline{DC}$



$\Delta ABC \cong \Delta EDC$ *by* AAS if one knows that

_____ ≅ _____.

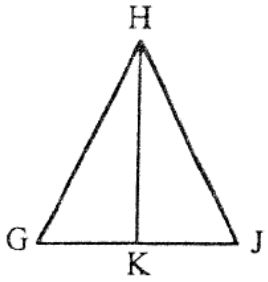
18. $Given: \angle S \cong \angle U$



$\Delta TRS \cong \Delta TRY$ *by* AAS if one knows that

_____ ≅ _____.

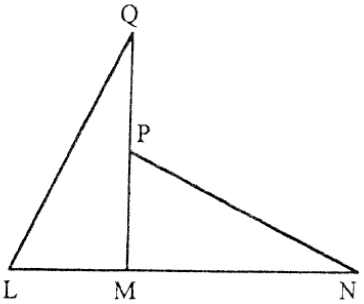
19. $Given: \overline{HK}$ *bisects* $\angle GHJ$



$\Delta HKG \cong \Delta HKJ$ *by* ASA if one knows that

_____ ≅ _____.

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



$\Delta LQM \cong \Delta PNM$ *by* SSS if one knows that

_____ ≅ _____.